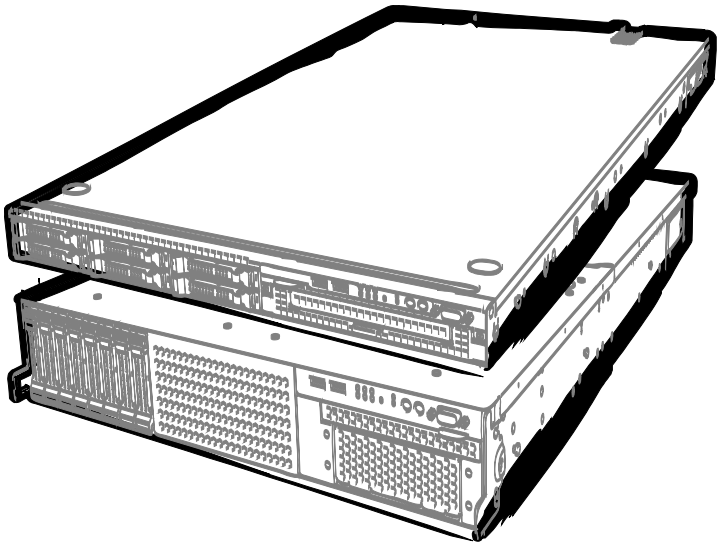
Express5800

NEC



NEC Express Server
Express5800 Series

Express5800/R120d-1M, R120d-2M

EXP291, EXP292
Installation Guide (Windows)

Model Number: R120d-1M N8100-1794F
R120d-2M N8100-1793F

Chapter 1 Installing Windows

Chapter 2 Installing the Bundled Software

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Documents Provided with This Product

Documents for this product are provided as accompanying booklets (📖) and as electronic manuals (PDF) stored within EXPRESSBUILDER DVD (💿).

📖 Precautions for Use	Describes points of caution to ensure the safe use of this server. **Read these cautions before using this server.**
📖 Getting Started	Describes how to use this server, from unpacking to operations. Refer to this guide as you begin for an overview of this server.

💿 EXPRESSBUILDER

PDF User's Guide

Chapter 1: General Description	Overviews, names, and functions of the server's parts
Chapter 2: Preparations	Installation of additional options, connection of peripheral devices, and ideal location for this server
Chapter 3: Setting Up Your Server	System BIOS configurations and summary of EXPRESSBUILDER
Chapter 4: Appendix	Specifications and other information

PDF Installation Guide (Windows)

Chapter 1: Installing Windows	Installation of Windows and drivers, and important information for installation
Chapter 2: Installing the Bundled Software	Installation of bundled software, such as NEC ESMPRO and Universal RAID Utility

PDF Maintenance Guide

Chapter 1: Maintenance	Server maintenance and troubleshooting
Chapter 2: Convenient Features	Useful features and the detail of system BIOS settings, RAID Configuration Utility, and EXPRESSBUILDER
Chapter 3: Appendix	Error messages and Windows Event Logs

PDF Other documents

Provides the detail of NEC ESMPRO, Universal RAID Utility, and the other features.

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Notations Used in This Document

Notations used in the text

In addition to safety-related symbols urging caution, 3 other types of notations are used in this document. These notations have the following meanings.

Important	Indicates critical items that must be followed when handling the server or operating software. If the procedures described are not followed, **server failure, data loss, and other serious malfunctions could occur**.
Note	Indicates items that must be confirmed when handling the server or operating software.
Tips	Indicates information that is helpful to keep in mind when using this server.

Optical disk drives

This server is equipped with one of the following drives, depending on the order at the time of purchase. These drives are referred to as *optical disk drives* in this document.

- **DVD-ROM drive**
- **DVD Super MULTI drive**

Hard disk drives

Unless otherwise stated, hard disk drives (HDD) described in this document refers to the following.

- **Hard disk drives (HDD)**
- **Solid state drive (SSD)**

Removable media

Unless otherwise stated, removable media described in this document refer to the following.

- **USB memory**
- **Flash FDD**

Abbreviations of Operating Systems (Windows)

Windows Operating Systems are referred to as follows.

Refer to *Chapter 1* (*1.2 Supported Windows OS)* for detailed information.

Notations in this document	Official names of Windows
Windows Server 2008 R2	Windows Server 2008 R2 Standard
	Windows Server 2008 R2 Enterprise
Windows Server 2008 *1	Windows Server 2008 Standard
	Windows Server 2008 Enterprise
Windows Server 2003 R2 x64 Edition	Windows Server 2003 R2 Standard x64 Edition
	Windows Server 2003 R2 Enterprise x64 Edition
Windows Server 2003 R2 *2	Windows Server 2003 R2 Standard
	Windows Server 2003 R2 Enterprise
Windows Server 2003 *2	Windows Server 2003 Standard
	Windows Server 2003 Enterprise
Windows 7	Windows 7 Professional 64-bit(x64) Edition
	Windows 7 Professional 32-bit(x86) Edition
Windows Vista	Windows Vista Business 64-bit(x64) Edition
	Windows Vista Business 32-bit(x86) Edition
Windows XP	Windows XP Professional x64 Edition
	Windows XP Professional
Windows PE *3	Windows Preinstallation Environment

*1: Includes 64-bit and 32-bit Editions unless otherwise stated.
The following appears on EXPRESSBUILDER.

- Windows Server 2008 64-bit Edition: Windows Server 2008 x64
- Windows Server 2008 32-bit Edition: Windows Server 2008 x86

*2: Unless otherwise stated, Windows Server 2003 R2 and Windows Server 2003 are collectively referred to as Windows Server 2003.

*3: Used as an installation platform only.

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BSMI Statement

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The most recent version of User's Guide, as well as other related documents, is also available for download from the following website.

http://www.nec.com/

NEC Express5800 Series
Express5800/R120d-1M, R120d-2M

1

Installing Windows

This chapter describes how to install Windows. Read through this chapter to set up the system correctly.

1. **Before Starting Setup**
   Describes the Service Packs and mass storage controllers that support EXPRESSBUILDER supplied with this product.

2. **Setting Up the Operating System**
   Describes the flow chart of setting up the operating system.

3. **Setting Up Windows Server 2008 R2**
   Describes how to set up Windows Server 2008 R2.

4. **Setting Up Windows Server 2008**
   Describes how to set up Windows Server 2008.

5. **Setting Up Windows Server 2003 R2 x64 Edition**
   Describes how to set up Windows Server 2003 R2 x64 Edition.

6. **Setting Up Windows Server 2003**
   Describes how to set up Windows Server 2003.

7. **Setting Up for Solving Problems**
   Describes the features that must be set up in advance so that the server can recover from any trouble immediately and precisely.

8. **Windows OS Parameter File**
   Describes how to set up the operating system by using the parameter file.

1. Before Starting Setup

This section describes the points of using EXPRESSBUILDER (contained in this product) to set up Windows operating systems.

Important

If you have purchased your server by BTO and ordered to install Windows, a COA (Certificate of Authenticity) label that describes your product key is stuck on your server.

The product key is required when setting up or re-installing the OS. Do not intentionally peel off or damage the label. The product key cannot be reissued in any occasion. It is recommended to take a note of product key and store it carefully with other accessories.

1.1 Starting EXPRESSBUILDER

Use the attached EXPRESSBUILDER to reconfigure the RAID System or re-install the OS.

Start EXPRESSBUILDER by either of the following two ways according to the media in which the EXPRESSBUILDER is stored. Refer to *Chapter 2* (*5. Details of EXPRESSBUILDER*) in the Maintenance Guide for more information.

With the pre-installation model, you do not need to start the EXPRESSBUILDER.

EXPRESSBUILDER DVD

Insert the DVD to the optical disk drive of the server, and then reboot by turning off and on the server or by pressing <Ctrl> + <Alt> + <Delete> keys.

Internal Flash Memory (optional)

Press <F3> key when the following message appears on POST screen. At this time, **be sure to remove a bootable disc from the optical disk drive**.

```
Press <F2> SETUP, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network
```

1.2 Supported Windows OS

EXPRESSBUILDER supports the following editions of Windows operating systems:
See the next section (*1.3 Service Pack Support*) for Service Pack.

Name of Windows OS		Supported
Windows Server 2008 R2	Windows Server 2008 R2 Standard	✓
	Windows Server 2008 R2 Enterprise	✓
Windows Server 2008	Windows Server 2008 Standard	✓
	Windows Server 2008 Enterprise	✓
Windows Server 2003 R2 x64 Edition	Windows Server 2003 R2 Standard x64 Edition	✓
	Windows Server 2003 R2 Enterprise x64 Edition	✓
Windows Server 2003 R2	Windows Server 2003 R2 Standard	✓
	Windows Server 2003 R2 Enterprise	✓
Windows Server 2003	Windows Server 2003 Standard	–
	Windows Server 2003 Enterprise	–

✓ : Supported
– : Not Supported

1.3 Service Pack Support

The following combination of operating system installation media and Service Packs are supported by EXPRESSBUILDER.

Service Pack	Windows Server 2008 R2
Service Pack 1 Included	✓
NO Service Pack + Service Pack 1	✓
NO Service Pack	✓

Service Pack	Windows Server 2008
Service Pack 2 Included	✓
NO Service Pack + Service Pack 2	✓
NO Service Pack	✓

Service Pack	Windows Server 2003 R2 x64 Edition
Service Pack 2 Included	✓
NO Service Pack + Service Pack 2	✓
NO Service Pack	–

Service Pack	Windows Server 2003 R2
Service Pack 2 Included	✓
NO Service Pack +Service Pack 2	✓
NO Service Pack	–

✓ : Supported
– : Not Supported

Note You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.

1.4 Mass Storage Controllers Supported by EXPRESSBUILDER

The table below lists the controllers for this server, supported by the supplied EXPRESSBUILDER.

If an optional board not mentioned below is connected, set it up while referring to the instructions supplied with the board and *Chapter 1 (1.5 When Using a Mass Storage Controller Not Supported by EXPRESSBUILDER*).

OS	Windows Server 2008 R2	Windows Server 2008	Windows Server 2003 R2 x64 Edition	Windows Server 2003
RAID Controllers supporting EXPRESSBUILDER OS installation				
N8103-149 RAID Controller (512MB, RAID 0/1)	✓	✓	✓	✓
N8103-150 RAID Controller (512 MB RAID 0/1/5/6)	✓	✓	✓	✓
N8103-151 RAID Controller (1GB, RAID 0/1/5/6)	✓	✓	✓	✓
Other options				
N8103-107 SCSI controller	✓	✓	✓	✓
N8103-104A SAS controller	✓	✓	✓	✓
N8103-142 SAS controller	✓	✓	✓	✓
N8103-160 RAID controller (1GB, RAID 0/1/5/6)	✓	✓	✓	✓
N8190-153 Fibre Channel controller (1 ch)	✓	✓	*	*
N8190-154 Fibre Channel controller (2 ch)	✓	✓	*	*

✓: Supported by EXPRESSBUILDER
* : Supported by accessory of optional board

1.5 When Using a Mass Storage Controller Not Supported by EXPRESSBUILDER

To install the Windows when using a mass storage controller not supported by EXPRESSBUILDER (such as the newest RAID controller), follow the steps below.

You do not need to perform the following instructions usually.

1. Have the instructions for the mass storage controller ready.

   Note If the contents of this document differ from that of the mass storage controller, prioritize the contents of the controller's document.

2. If you use a RAID Controller, follow the controller instructions to configure the RAID System.
3. If you want to set up by using EXPRESSBUILDER, go to Step 4.

   Refer to (setup with OS standard installer) section of each OS and click [Skip] in RAID settings.

4. Boot from EXPRESSBUILDER.

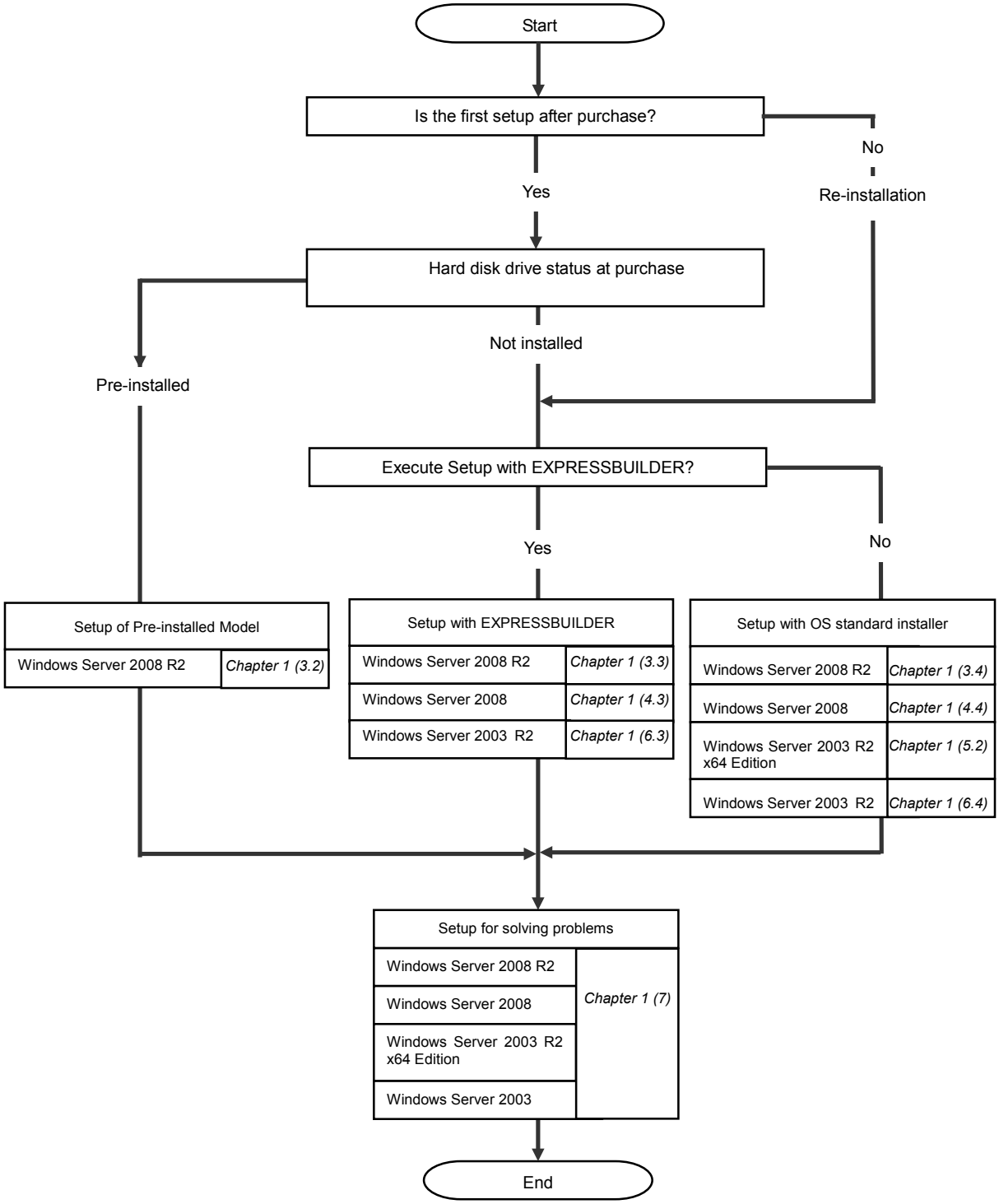
5. Select **Configure EXPRESSBUILDER settings** from Top Menu, and then select **Load a driver into EXPRESSBUILDER** from the menu. Next, click [Next].
   Insert the media in which the driver for the mass storage controller is copied, select the destination, and then click [Perform].

   Tips By selecting this option, the driver supplied by the CD-ROM or removable media is loaded, and you can proceed with the EXPRESSBUILDER setup.

6. Setup the RAID System according to "*Setup with EXPRESSBUILDER*" for each OS.
   - Click [Skip] in **RAID settings**.
   - Confirm that **Apply drivers for mass storage controller** appears under **Selected applications** in **Application settings**.

2. Setting Up the Operating System

See the figure below to find a section appropriate to your OS installation.



3. Setting Up Windows Server 2008 R2

Set up Windows Server 2008 R2.

3.1 Before Starting Setup

Read through the cautions explained here before starting setup.

BTO : Setting up of Pre-installed model

EB : Confirm during Setup with EXPRESSBUILDER

OS : Confirm during Setup with OS standard installer

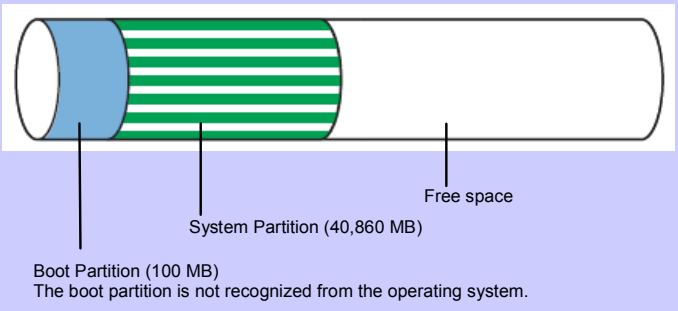
(1/4)

Setup			Items to confirm	
BTO	EB	OS	Windows family	The following editions of the Windows Server 2008 R2 family may be installed. • Windows Server 2008 R2 Standard • Windows Server 2008 R2 Enterprise Inquiries about installing other editions may be made at your sales representative. For information about Service Packs, refer to *Chapter 1 (1.2 Service Pack Support)*.
			Hardware configuration	The following hardware configurations require special procedures.
—	EB	OS		• **Reinstalling to a mirrored volume** Disable the mirroring and reset to the basic disk. After installation, enable the mirroring again. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
—	EB	OS		• **Peripheral devices such as RDX/MO** Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation.
—	EB	OS		• **DAT, LTO, and similar media** Do not set media that is unnecessary to installation during setup.
—	EB	OS		• **Reinstalling to hard disk drives that have been upgraded to dynamic disks** If the hard disk drive has been upgraded to a dynamic disk, the operating system cannot be reinstalled to it with the existing partitions. Set up the operating system with the OS standard installer.
—	EB	OS		• **Connecting to multiple hard disk drives (logical drives)** For details on installing operating systems to a system in which multiple logical drives exist, refer to *Chapter 1* (*3.8 Installation When Multiple Logical Drives Exist*).

(2/4)

Setup			Items to confirm	
—	EB	OS	System partition size	The system partition size can be calculated by using the following formula. Size required to install the OS + paging file size + dump file size + application size **Full installations** Size required to install the OS = 15,600 MB (Windows Server 2008 R2 + Service Pack 1) = 8,400 MB (Windows Server 2008 R2 with Service Pack 1) = 8,000 MB (Windows Server 2008 R2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application **Server Core installations** Size required to install the OS = 11,100 MB (Windows Server 2008 R2 + Service Pack 1) = 3,700 MB (Windows Server 2008 R2 with Service Pack 1) = 3,500 MB (Windows Server 2008 R2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application For example, if the installed memory size is 1 GB (1,024 MB) and Full installation is selected, the partition size is calculated as follows: 8,000 MB + (1,024 MB × 1.5) + 1,024 MB + 300 MB + application size = 10,860 MB + application size The above mentioned partition size is the minimum partition size required for system installation. Ensure that the partition size is sufficient for system operations. The following partition sizes are recommended. Full installations : 32,768 MB (32 GB) or more Server Core installations : 10,240MB (10 GB) or more *1 GB = 1,024 MB **Note** • The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. • Regardless of the sizes of internal memory and write debug information, the maximum size of the dump file is "size of internal memory + 300 MB". • When installing other applications or other items, add the amount of space needed by the application to the partition.

(3/4)

Setup			Items to confirm	
—	EB	OS	System partition size	If the partition size for installing the system is smaller than the size required for installation + paging file size, expand the partition size or add another disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Write the debug information of the dump file onto another disk by referring to *7. Setup for Solving Problems*. If there is not enough disk space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another disk for the dump file. **Tips** When creating a new partition, Windows OS assigns an initial boot partition of 100 MB. For example, when making a partition of 40,960 MB (40 GB), usable space will be 40,960 MB – 100 MB = 40,860 MB. 
—	EB	OS	Using BitLocker	If using BitLocker, note the following. • Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker. • To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation. • Microsoft releases software updates for BitLocker encryption. If using BitLocker, it is important that you read through the information provided by Microsoft. Also read through the checklist published by Microsoft. For details, visit **http://support.microsoft.com/kb/975496/en-us.** **Important** **If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more.** **The recovery password might be required at startup of the OS after the following:** **– Replacement of motherboard** **– Initialization of trusted platform module (TPM)** **– Change of BIOS setting**
BTO	EB	OS	Installing Service Pack	• If the OS installation media contains Service Pack 1, you need not apply the service pack again. • You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.

(4/4)

Setup			Items to confirm	
—	EB	OS	License authentication	License authentication might be required, depending on the installation of Windows. For details, refer to *3.7 License Authentication*. **Note** • **Activate within 30 days following installation.** • **A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.**

3.2 Setting Up of Pre-installed Model

If you specify "pre-installation" in BTO (Build to Order), your server will be shipped with partitions created, operating system and all the necessary software installed.

This section describes how to setup your server of pre-installed model when power of the server is turned on for the first time. For re-set up, use EXPRESSBUILDER or OS standard installer.

Note

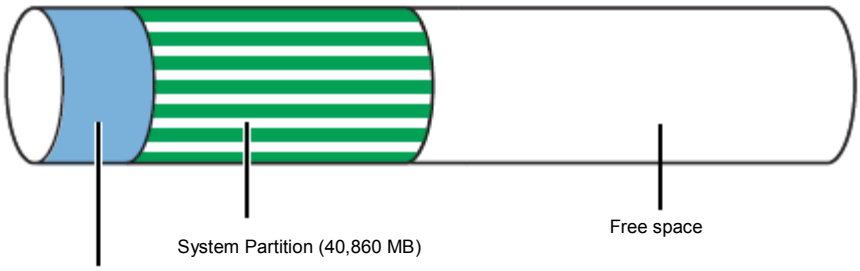
The Scalable Networking Pack (SNP) feature is set to "Disabled" on pre-installed model.
The setting of SNP function may affect the system performance.
Contact your sales representative for details.

3.2.1 Before Starting Setup (Status at purchase)

Confirm the following before starting setup.

The hardware configuration of the server (including partition size of hard disk drive) and software installed in hard disk drive depends on your order made before purchase (BTO).

The figure below shows structure of the partition created in hard disk drive.



Boot Partition (100 MB)
The boot partition is not recognized from the operating system.

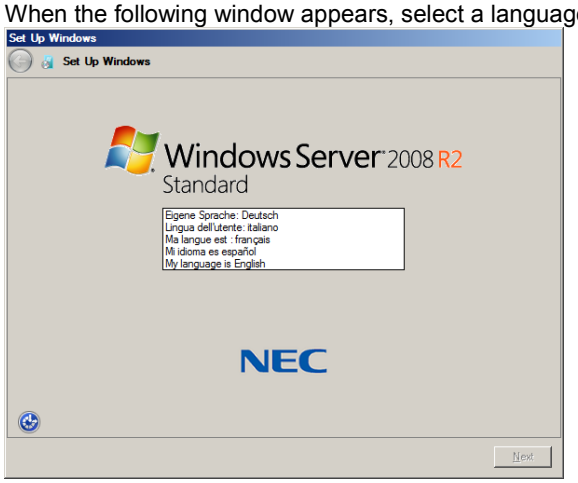
3.2.2 Setup Procedure

Follow the steps below to setup your server.

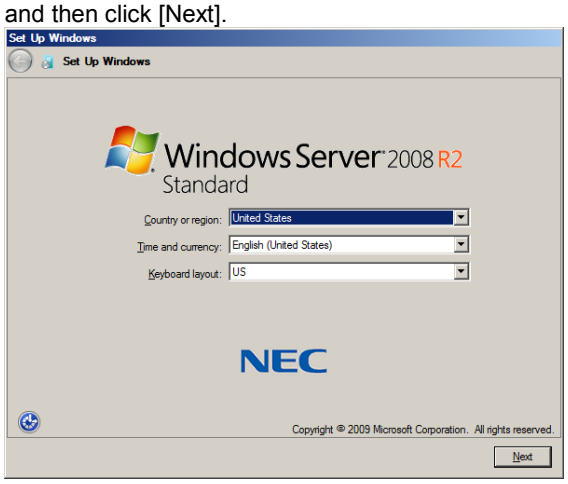
1. Power on peripheral devices then the server to run Windows.

   After a while, **Setup Windows** screen appears.

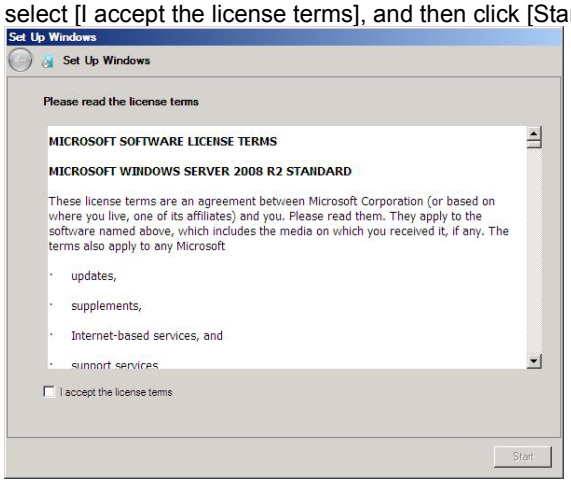
   (1) When the following window appears, select a language, and then click [Next].



   (2) When the following window appears, select a language, enter information for the other items, and then click [Next].

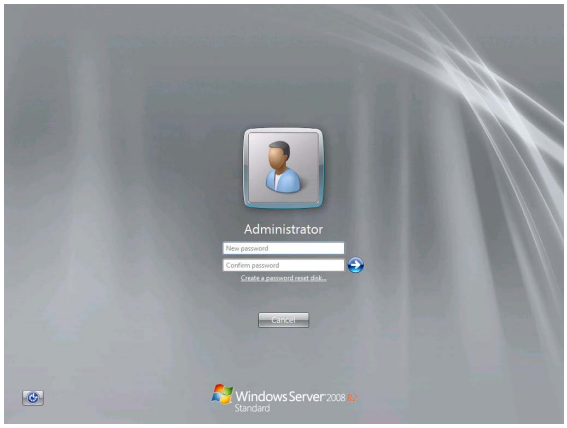


   (3) On **Agree Software License Agreement** screen, read the license terms carefully. If you agree, select [I accept the license terms], and then click [Start].


Set Up Windows
Set Up Windows
Please read the license terms
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT WINDOWS SERVER 2008 R2 STANDARD
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
updates,
supplements,
Internet-based services, and
support services
I accept the license terms
Start

(4) If you prompted to change password upon completion of setup of Windows Server 2008 R2, click [OK].

(5) Enter your new password, and click .



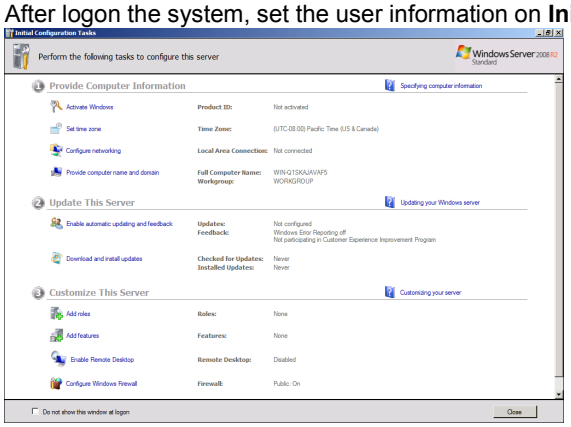
Tips

Password must satisfy the following conditions:

- Password must have at least 6 characters.
- Password must contain at least three of the following categories : numeric characters, upper-case alphabetic characters, lower-case alphabetic characters, or symbols.

(6) Click [OK] on the screen shown below.

(7) After logon the system, set the user information on **Initial Configuration Tasks** screen.



2. Specify the details of network driver according to *Chapter 1 (3.6 Setting Up Device Drivers)*.

3. Install optional device drivers as needed according to the Instruction Manual provided with the optional device.

4. Provide settings for bundled software and verify them.

   The bundled software listed below have been installed on your server.

   - NEC ESMPRO Agent
   - Universal RAID Utility
   - Microsoft Visual C++ 2005 SP1 Redistributable Package (x86) *

     (Use the x86 package whatever the CPU architecture may be.)

   Refer to *Chapter 2 (Installing Bundled Software)*.

   * This component has already been installed when you install Universal RAID Utility.

5. Apply Service Pack as needed according to *Chapter 1 (3.9 Applying Service Pack)*.
6. Provide setup according to the instructions described in *Chapter 1 (7. Setup for Solving Problems*).

Setup for pre-installed model is now complete.

3.3 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following " *User's Guide* ".

Important

- **Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:**
  - **RAID settings wizard**
  - **Partition Settings in the Windows Setup wizard**

  Backing up user data, as needed, is recommended.
- **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.**

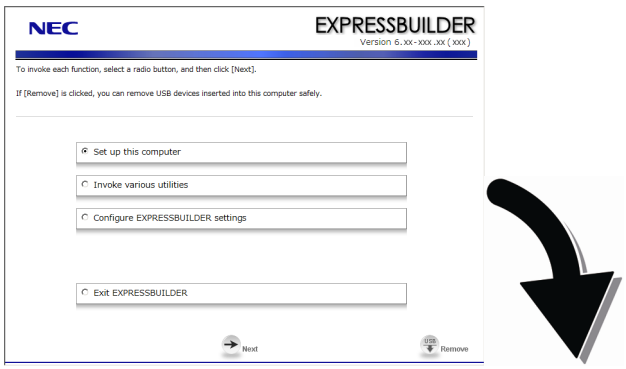
Note

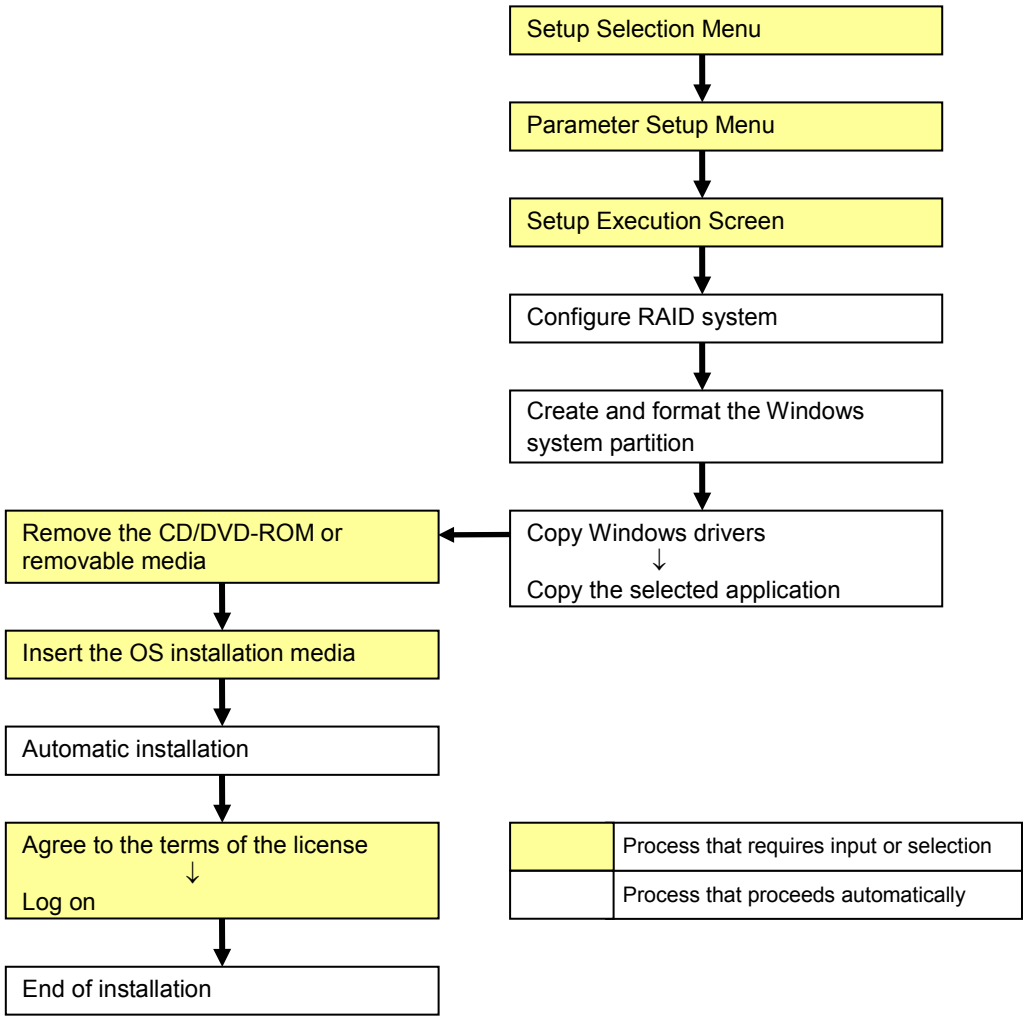
The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER.
The setting of SNP function may affect the system performance.
Contact your sales representative for details.

Tips

- Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *8 Windows OS Parameter File*.

3.3.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



3.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **NEC operating system installation media** (hereafter referred to as *Backup DVD-ROM*)
  - **Microsoft operating system installation media** (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory**
    (If "Internal Flash Memory" is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Service Pack**
    (If the OS installation media contains Service Pack 1, you need not apply the service pack again.)

Tips

- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD. .

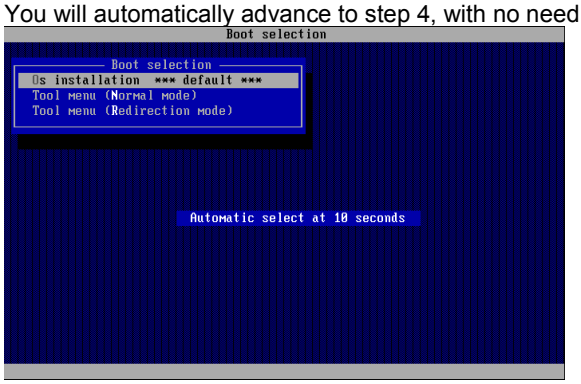
3.3.3 Setup procedure

During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

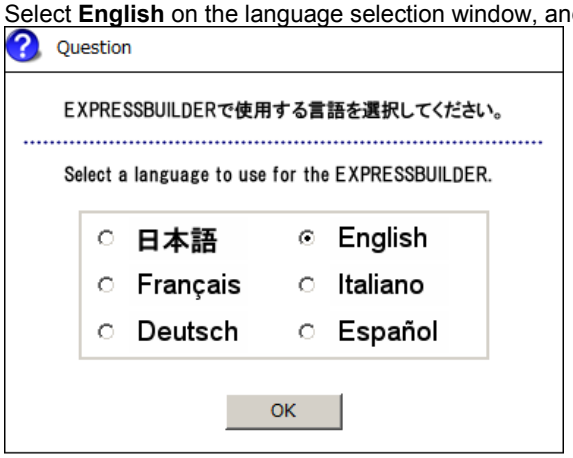
Note

- **Read through the items in *Chapter 1* (*3.1 Before Starting Setup*) prior to installing Windows.**
- **If modifying or adding network adapters or other drivers, refer to Chapter 1 (*3.6 Setting Up Device Drivers*).**

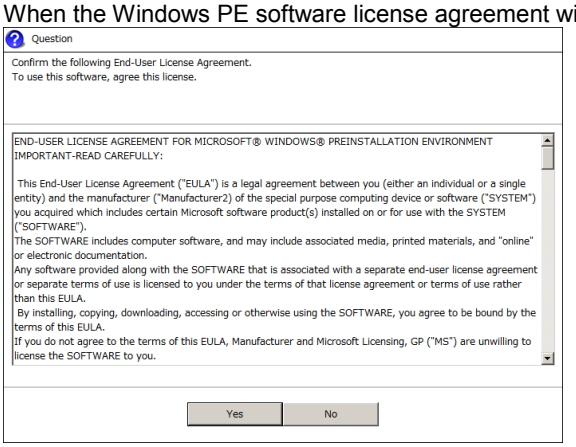
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to step 4, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

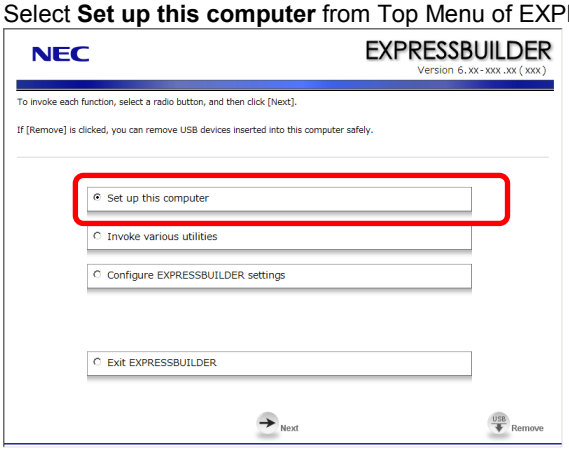


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

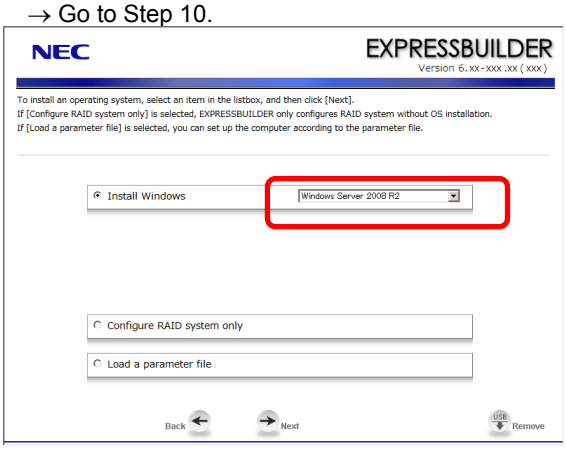
6. Select **Set up this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

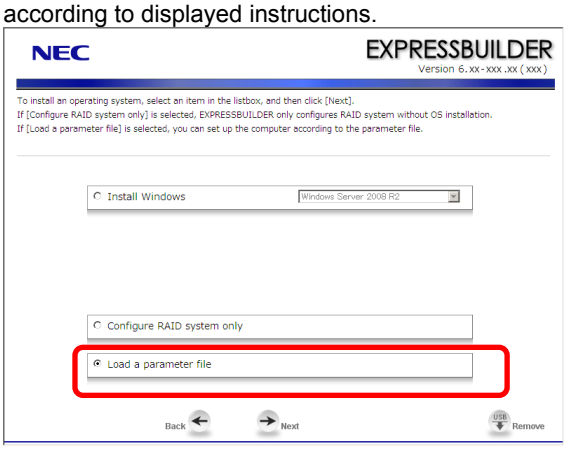
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

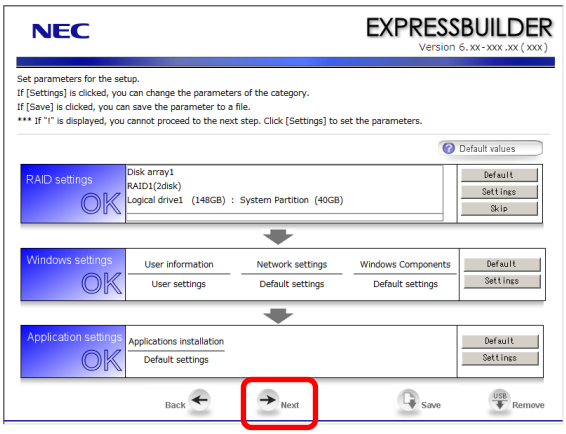
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next].
   On this dialog, select "Windows Server 2008 R2" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

9. If you use a parameter file, select **Load a parameter file** and click [Next]. Load a parameter file according to displayed instructions.

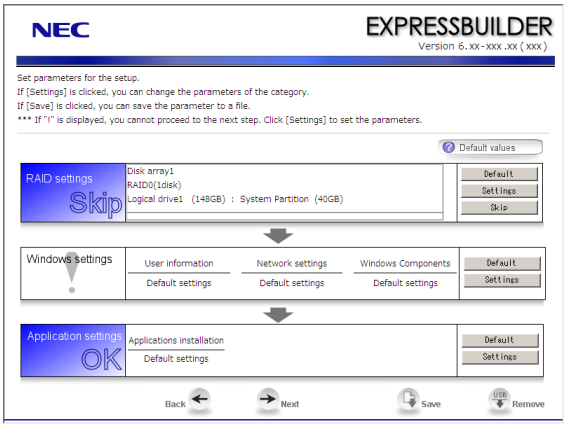

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 13.

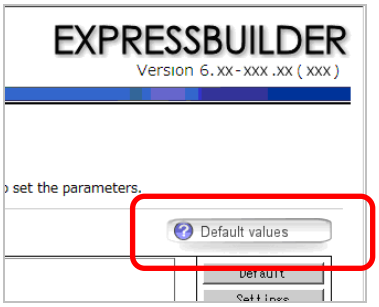


10. Set parameters required for setup.

Click [Settings] of the relevant category to change parameters.

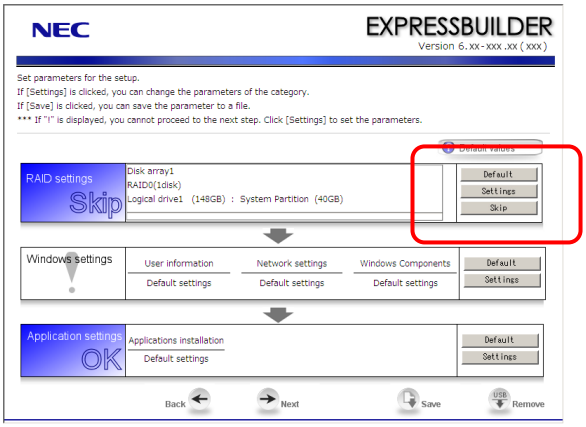


Click [Default] to restore the default values.
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.
Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1) Click [Settings] in RAID settings.

(2) Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

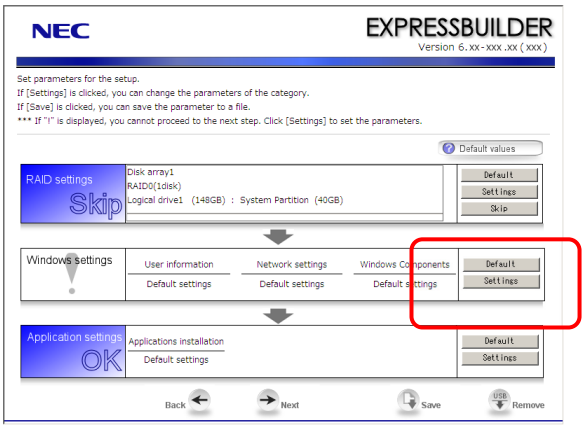
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

When the RAID settings wizard is terminated, Parameter Setup Menu appears again.

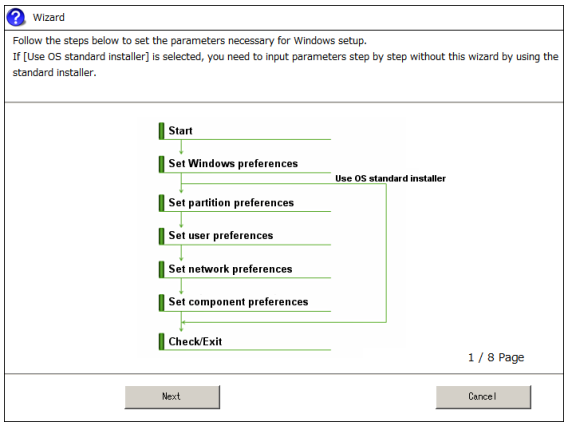
10-2 Windows settings

Set up Windows by using the Windows settings wizard on Parameter Setup Menu.



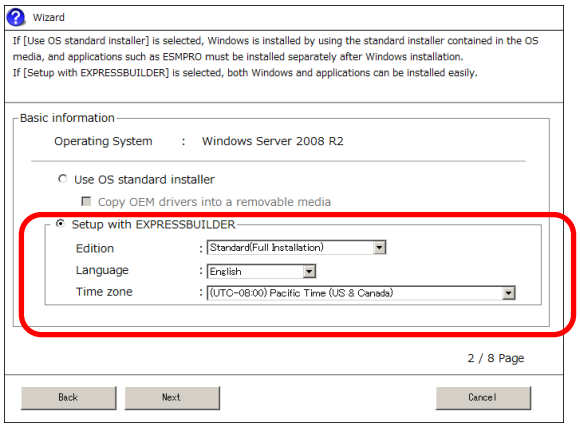
(1) Click [Settings] in **Windows settings**.

(2) Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

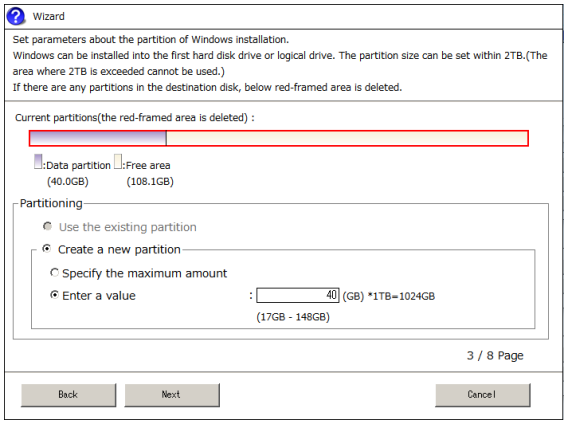
(3) Specify the Windows basic settings.

Change settings for "Edition" and "Time Zone" as needed, and click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2008 R2
Use OS standard installer
Copy OEM drivers into a removable media
Setup with EXPRESSBUILDER
Edition : Standard(Full Installation)
Language : English
Time zone : (UTC-08:00) Pacific Time (US & Canada)
2 / 8 Page
Back
Next
Cancel

(4) Set up the partitions.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].


Wizard
Set parameters about the partition of Windows installation.
Windows can be installed into the first hard disk drive or logical drive. The partition size can be set within 2TB.(The area where 2TB is exceeded cannot be used.)
If there are any partitions in the destination disk, below red-framed area is deleted.
Current partitions(the red-framed area is deleted) :
:Data partition (40.0GB)
:Free area (108.1GB)
Partitioning
Use the existing partition
Create a new partition
Specify the maximum amount
Enter a value : 40 (GB) *1TB=1024GB
(17GB - 148GB)
3 / 8 Page
Back
Next
Cancel

Important

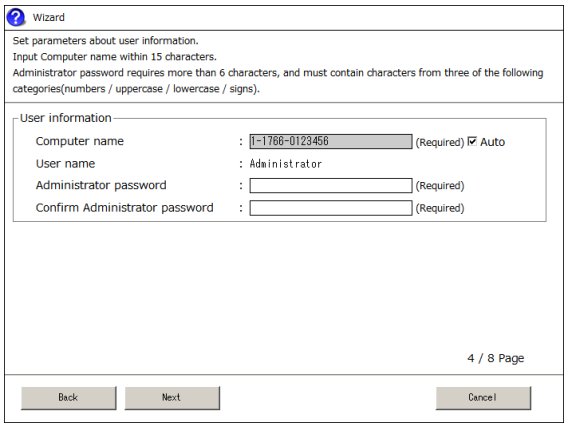
- **Partition size**
  - **Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (3.1 Before Starting Setup)*.)**
  - **The maximum partition size is 2,097,152 MB.**
- **If you select *Create a new partition* under *Partitioning*, the entire contents of the hard disk drive will be deleted.**
- **If you select *Use the existing partition* under *Partitioning*, data in the boot partition (if it exists) and system partition is formatted and deleted. Data in other partitions will be kept.**
  The figure below shows in which partitions data will be deleted.

Boot partition	system partition	User data partition
Deleted	Deleted	Retained

- **You cannot reinstall to an existing partition that has been upgraded to a Dynamic Disk (refer to *Chapter 1 (3.1 Before Starting Setup)*). Do not select *Use the existing partition* under *Partitioning*.**

(5) Enter user information.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].


Wizard
Set parameters about user information.
Input Computer name within 15 characters.
Administrator password requires more than 6 characters, and must contain characters from three of the following categories(numbers / uppercase / lowercase / signs).
User information
Computer name : 1-1766-0123456 (Required) Auto
User name : Administrator
Administrator password : (Required)
Confirm Administrator password : (Required)
4 / 8 Page
Back
Next
Cancel

Note

For Windows Server 2008 R2, you must enter a computer name and administrator password that satisfies the following conditions:

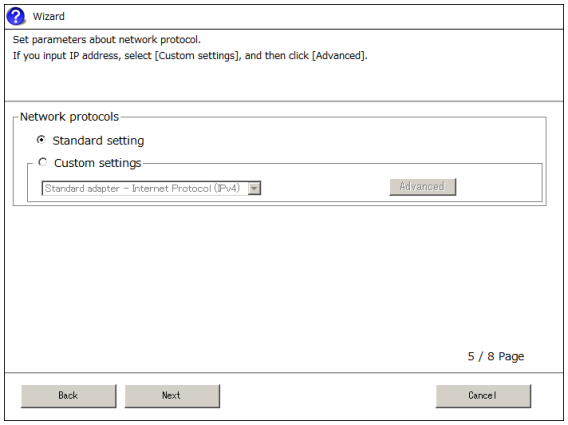
- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

Tips

- The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
- If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Confirm Administrator password text boxes even if no value has been entered.

(6) Set up the network.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



Note

Even when an optional network board is connected, **Custom setting** list only shows standard network boards.

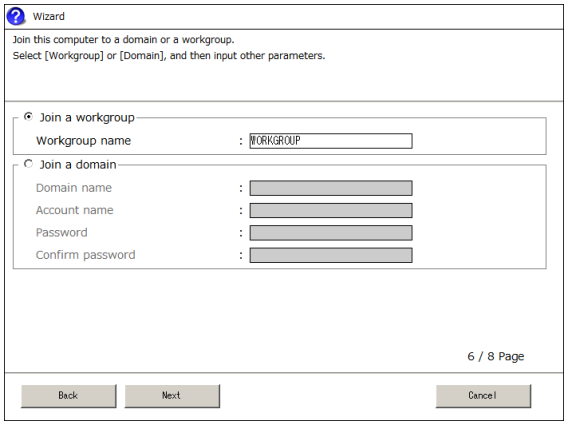
After finishing Setup with EXPRESSBUILDER, specify the optional network settings again.

Tips

The order of entry in **Custom settings** may differ from the numbering of LAN ports.

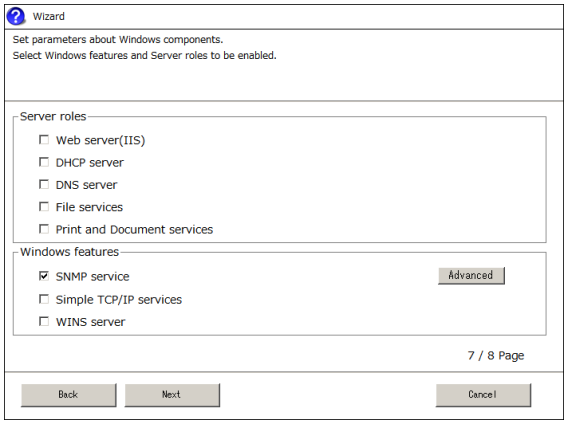
(7) Enter the domain or workgroup name to be used.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



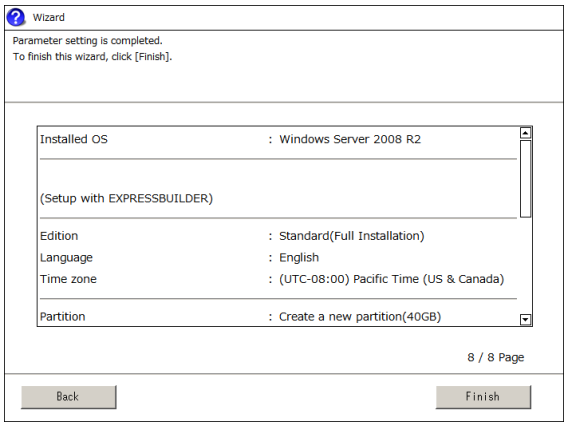
(8) Select the Windows components for installation.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



(9) Confirm settings.

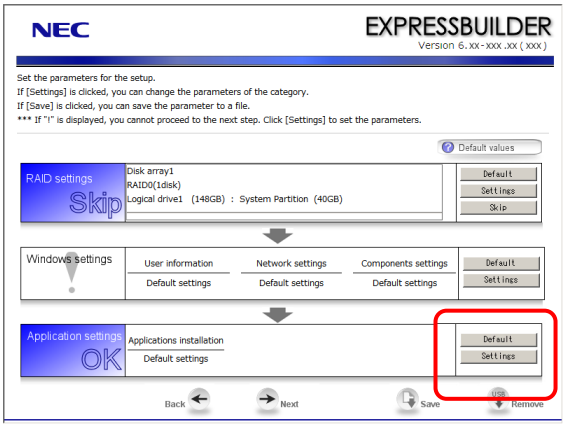
Confirm settings on the dialog shown below, and click [Finish].


Wizard
Parameter setting is completed.
To finish this wizard, click [Finish].
Installed OS : Windows Server 2008 R2
(Setup with EXPRESSBUILDER)
Edition : Standard(Full Installation)
Language : English
Time zone : (UTC-08:00) Pacific Time (US & Canada)
Partition : Create a new partition(40GB)
8 / 8 Page
Back
Finish

When the Windows settings wizard is terminated, Parameter Setup Menu appears again.

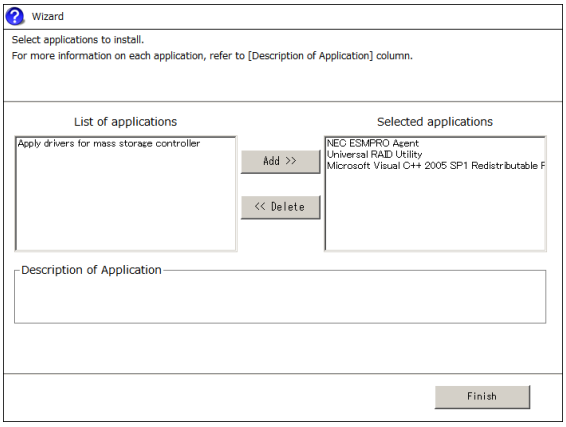
10-3 Application settings

Set up applications using the Application settings wizard in Parameter Setup Menu.



(1) Click [Setting] in **Application settings**.

(2) Confirm settings on the dialog shown below, change them as needed, and click [Finish].

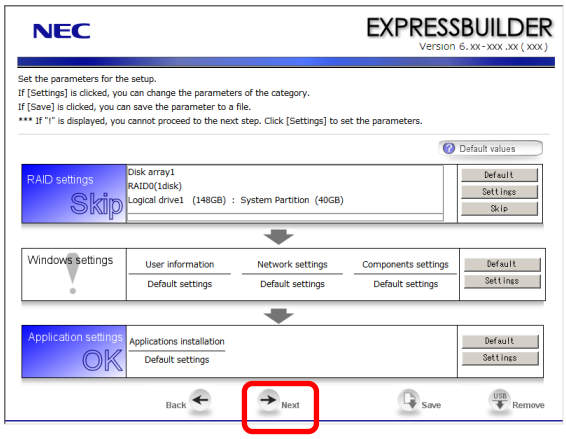


11. Save parameters on Parameter Setup Menu.

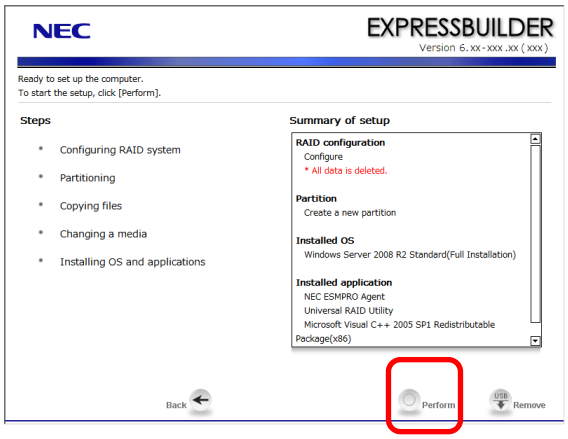
    Click [Save], and save the parameter file according to displayed instructions.

    If you do not need to save parameters, go to Step 12.

12. Click [Next] on Parameter Setup Menu.

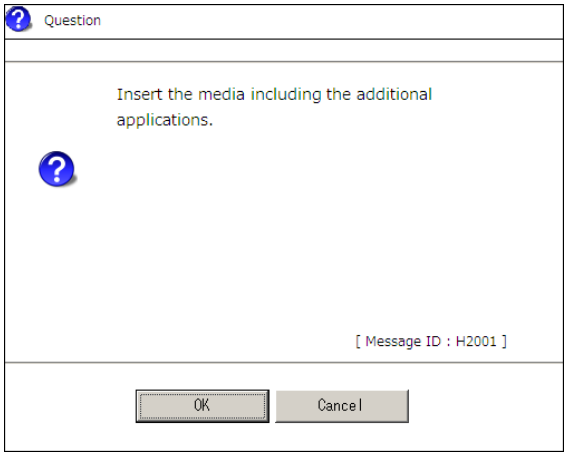


13. Confirm the summary of setup on the screen below, and click [Perform].



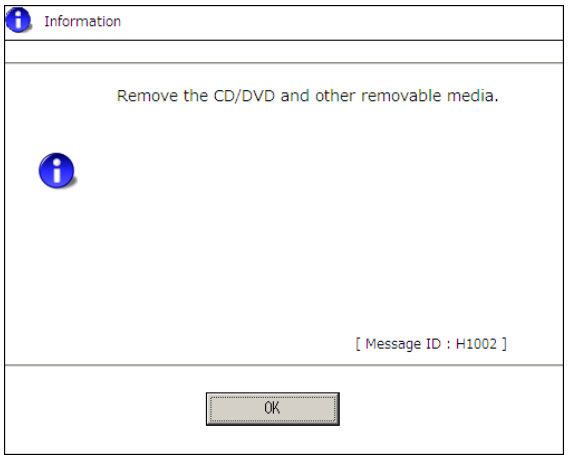
14. Install the additional applications.

    If **Installing the OS and applications** is selected, the following message will appear.

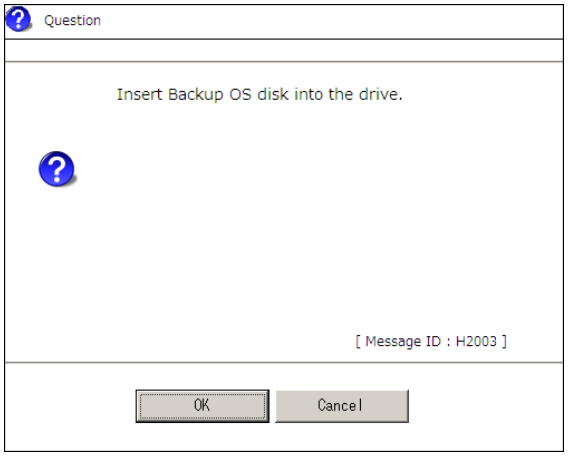


    Insert the CD-ROM or removable media that contains the necessary applications, and install them according to displayed messages.

15. Remove the removable media or DVD(EXPRESSBUILDER) from the server.

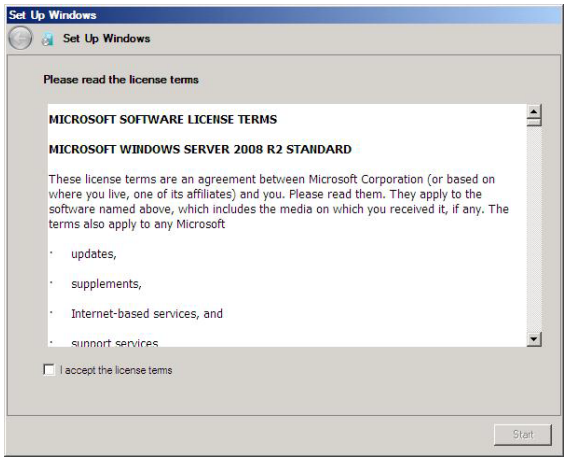


16. Insert the Windows Server 2008 R2 DVD-ROM into the optical disk drive, and then click [OK].



Windows Server 2008 R2 and selected applications will be installed automatically and restart several times.

17. When the software license agreement window appears, select **I accept the license terms**, and then click [Start] (Full installation only).

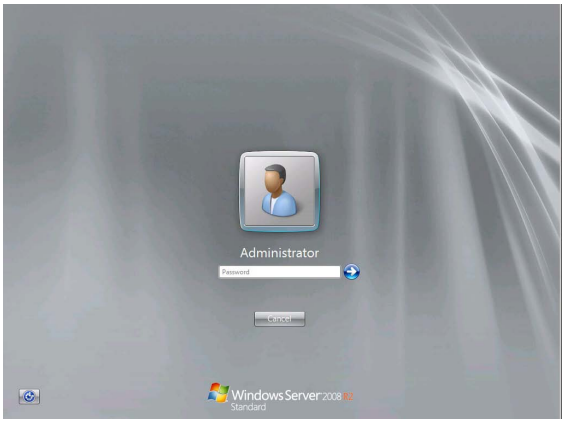

Set Up Windows
Set Up Windows
Please read the license terms
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT WINDOWS SERVER 2008 R2 STANDARD
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
updates,
supplements,
Internet-based services, and
support services
I accept the license terms
Start

18. When the following message appears, press <Ctrl> + <Alt> + <Del> keys.

19. Follow displayed instructions to log on to the system.

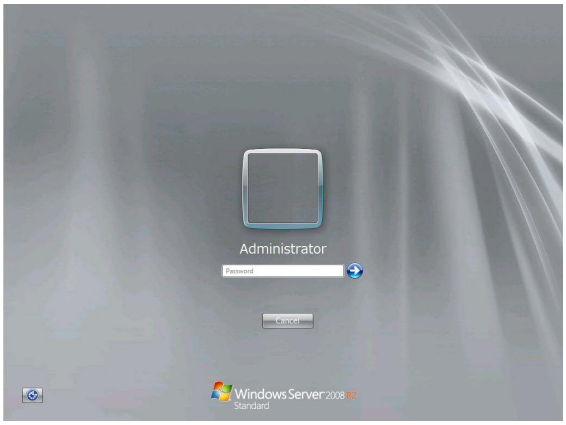
Full installations:

When the following screen appears, enter your password into the text box, and then click .



Server Core installations:

When the following screen appears, enter your password into the text box, and then click .



20. Click [OK] in the Setup Complete window.
21. Follow the instructions described in *Chapter 1 (3.6 Setting Up Device Drivers)* to set up the device drivers.
22. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
23. Apply Service Pack as needed according to *Chapter 1 (*3.9 Applying Service Pack*)*.
24. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems)*.

Setup with EXPRESSBUILDER is now complete.

3.4 Setup with OS Standard Installer

This section describes how to install Windows with OS Standard Installer.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide* ".

Important

Setup with OS standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:

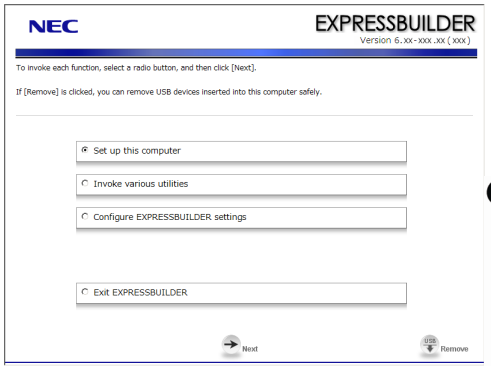
– RAID settings wizard

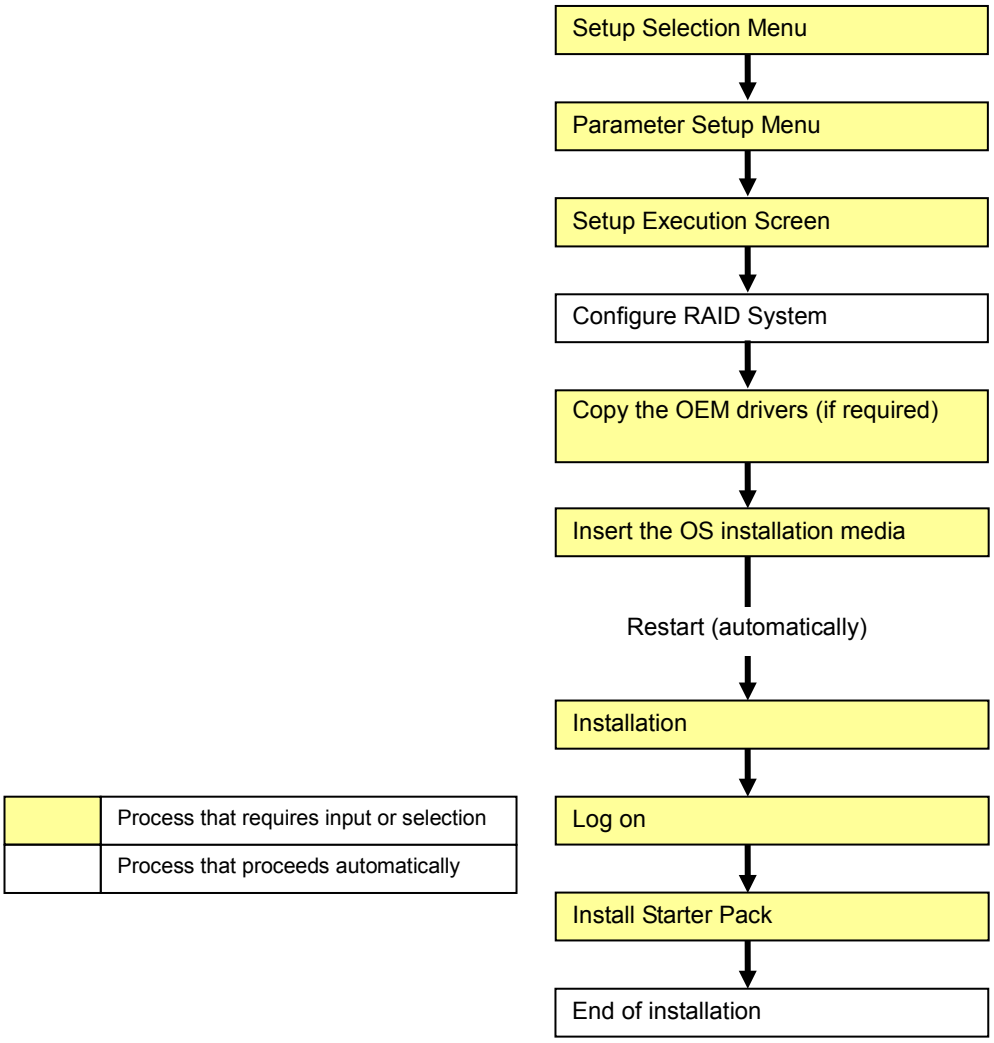
Backing up user data, as needed, is recommended.

Tips

- Setup with OS Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *8 Windows OS Parameter File*.

3.4.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx(xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



3.4.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **NEC operating system installation media** (hereafter referred to as *Backup DVD-ROM*)
  - **Microsoft operating system installation media** (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory**
    (If "Internal Flash Memory " is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Service Pack**
    (If the OS installation media contains Service Pack 1, you need not apply the service pack again.)

Tips

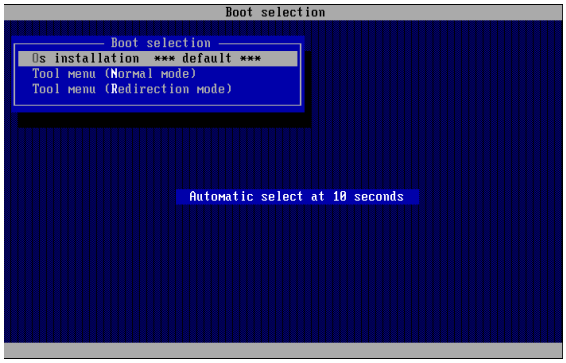
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

3.4.3 Setup procedure

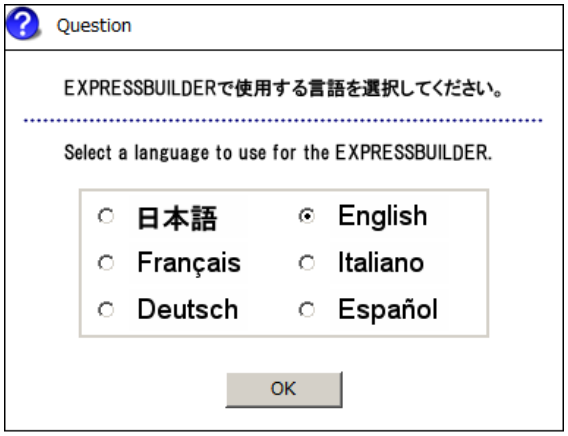
This section describes the procedure for installing Windows Server 2008 R2 with OS standard installer.

Note Read through the items in *Chapter 1* (*3.1 Before Starting Setup*) prior to installing Windows.

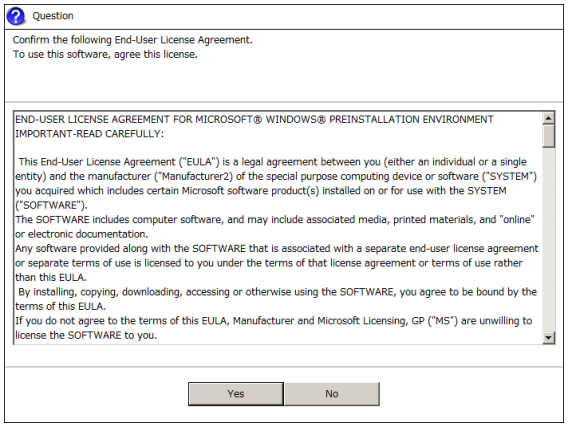
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to step 4, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

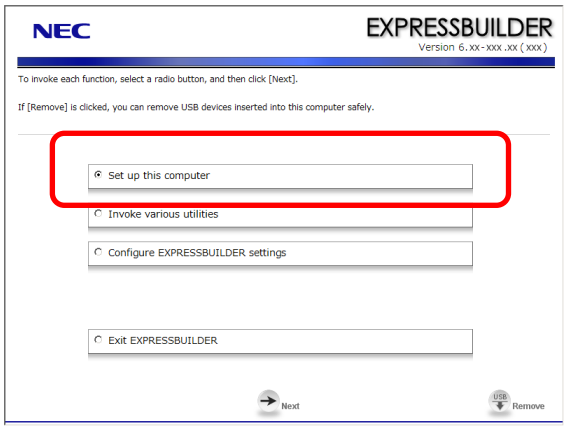


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

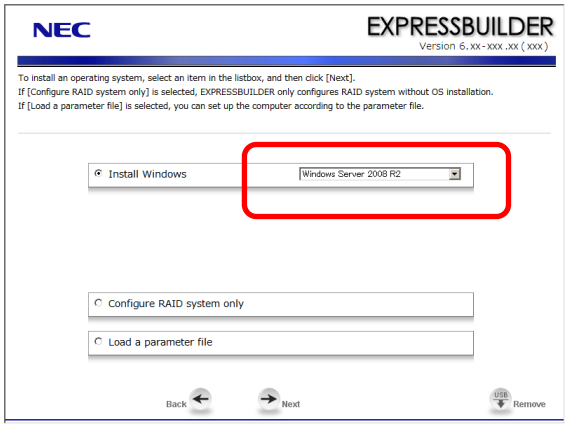
6. Select **Set up this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx(xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

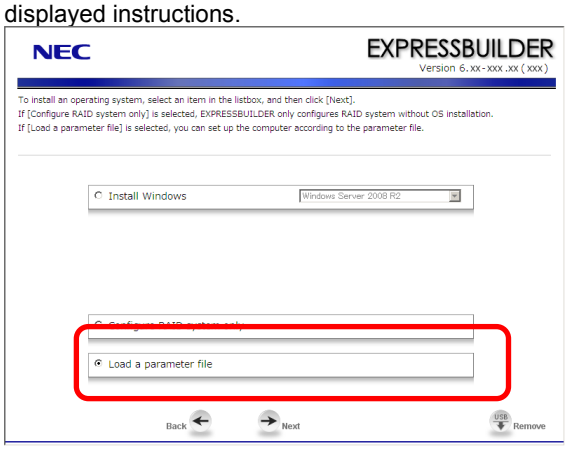
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

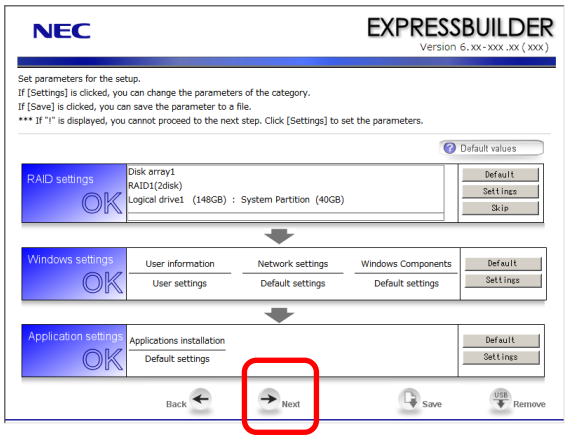
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next]. On this dialog, select "Windows Server 2008 R2" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx(xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

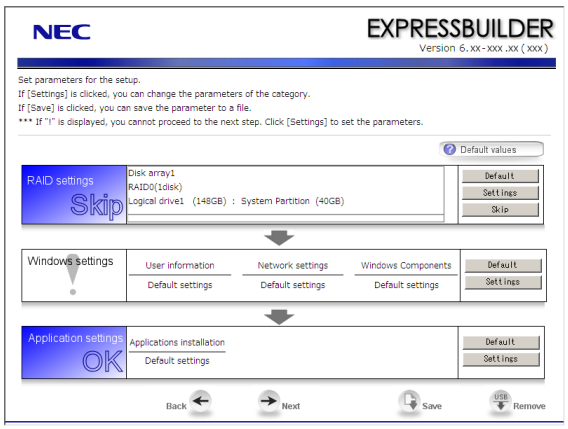
9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to displayed instructions.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx(xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 R2
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step16.

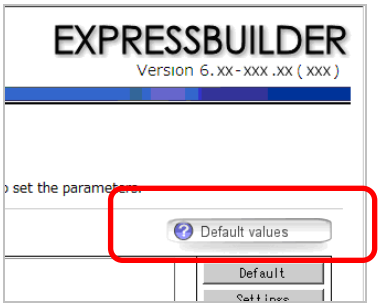


10. Set parameters required for setup.
Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

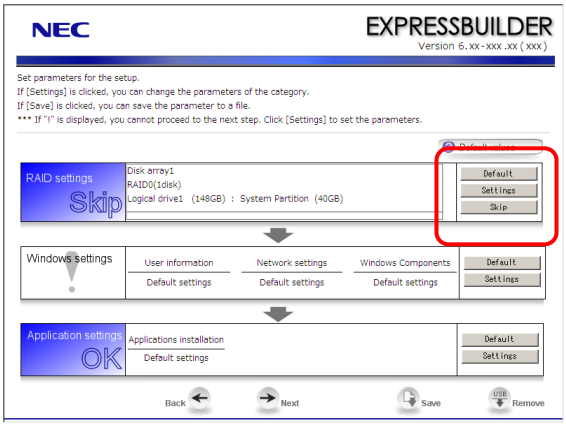
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1) Click [Settings] in RAID settings.

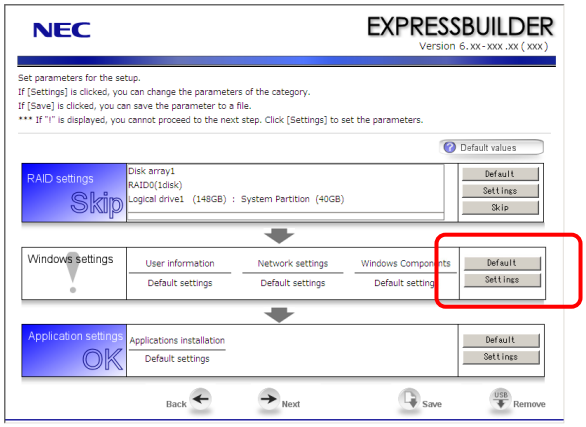
(2) Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

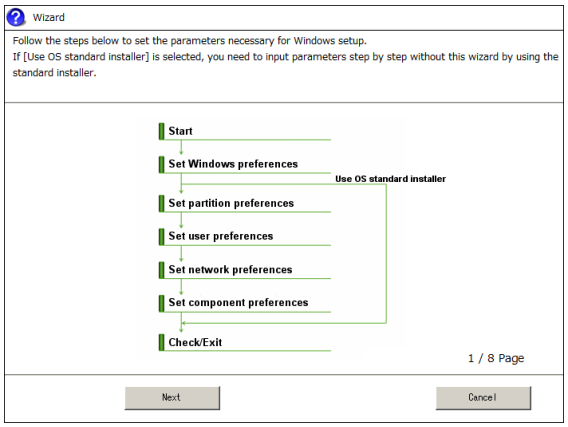
When skipping the creation of a new logical drives

Click [Skip] in RAID settings.

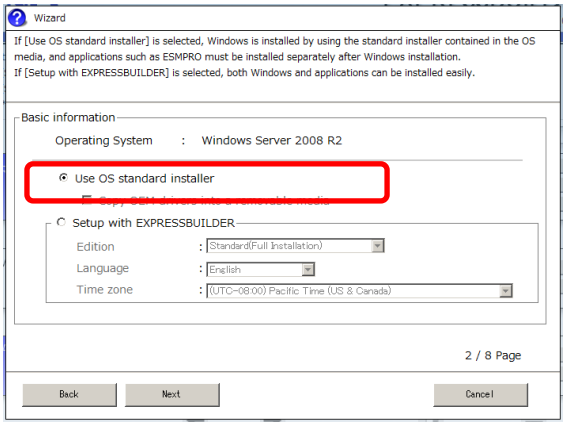
11. Click [Settings] in **Windows settings**.



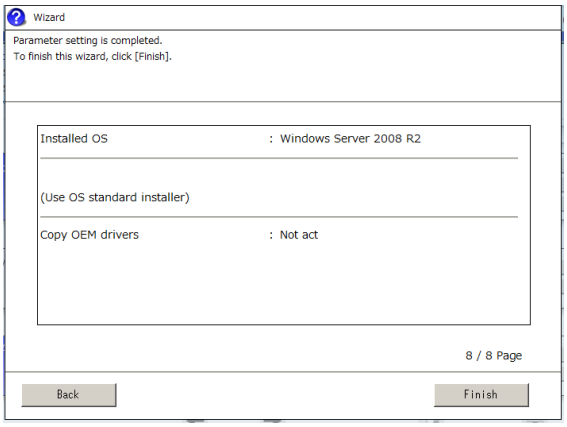
12. Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

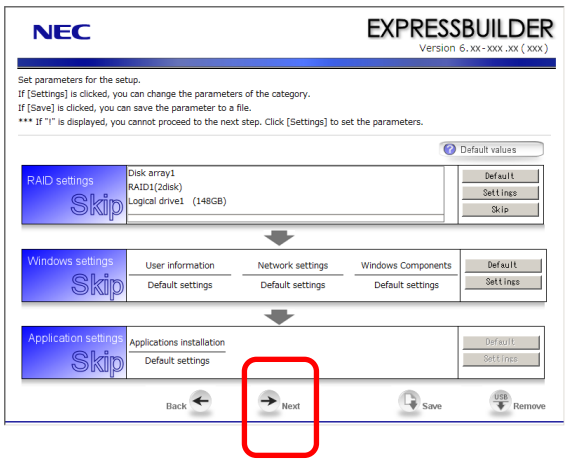
13. Specify the Windows basic settings.
The basic information window appears. Select **Use OS standard installer**, and then click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2008 R2
Use OS standard installer
Setup with EXPRESSBUILDER
Edition : Standard(Full Installation)
Language : English
Time zone : (UTC-08:00) Pacific Time (US & Canada)
2 / 8 Page
Back
Next
Cancel

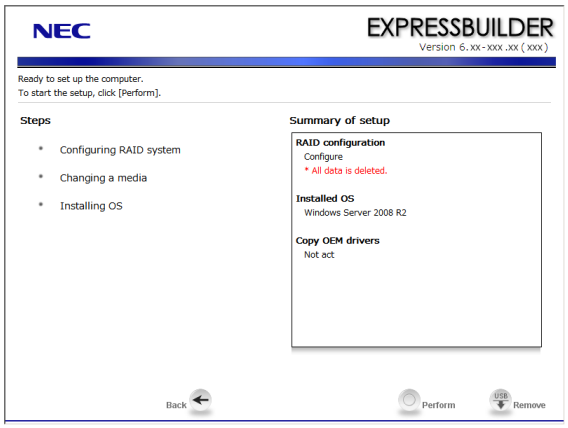
14. Confirm settings on the confirmation window, and click [Finish].



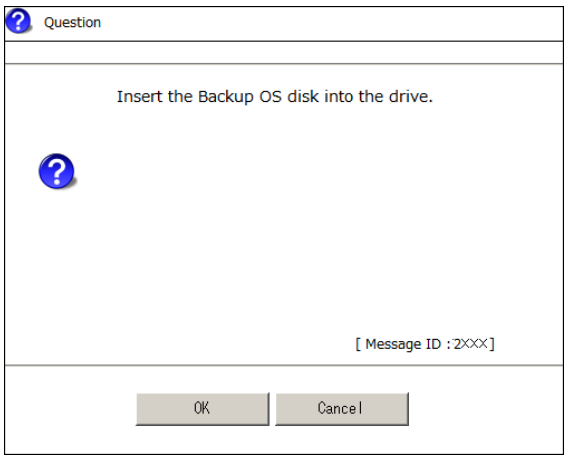
15. Click [Next] on Parameter Setup Menu.



16. Confirm the summary of setup on the screen below, and click [Perform].



17. Continue setup according to displayed message.
When the following message appears, set OS installation media, and click [OK].



18. Reboot the server automatically.
If you use Internal Flash Memory, press <F3> key when the following message appears during POST.

```
Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network
```

Note Since the OS installation media is set in the optical disk drive in Step 17, boot the system from the optical disk drive having higher boot priority, not from Internal Flash Memory.

19. Run from the OS installation media.
If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message “Press any key to boot from CD or DVD…” is displayed on the top of the screen.

When the boot sequence proceeds, the message “Windows is loading files…” appears.

Note If “Windows is loading files...” message does not appear, <Enter> key was not pressed correctly. Reboot and retry again.

This step is unnecessary if no bootable operating system exists.

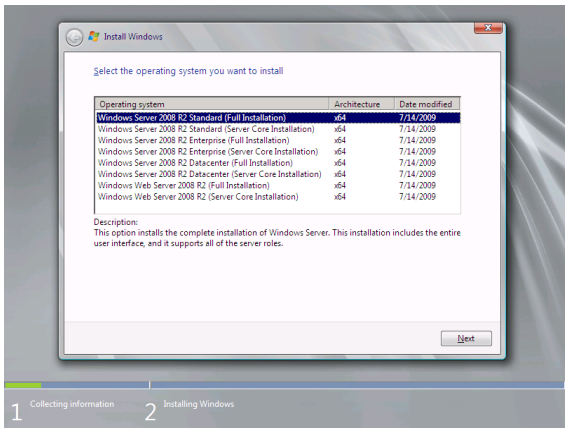
20. When the following window appears, select a language, enter information for the other items, and then click [Next].

Install Windows
Windows Server 2008 R2
Language to install: English
Time and currency format: English (United States)
Keyboard or input method: US
Enter your language and other preferences and click "Next" to continue.
Copyright © 2009 Microsoft Corporation. All rights reserved.
Next

21. When the following message appears, click [Install Now].
Windows Server 2008 R2 installation starts.

Install Windows
Windows Server 2008 R2
Install now
What to know before installing Windows
Repair your computer
Copyright © 2009 Microsoft Corporation. All rights reserved.

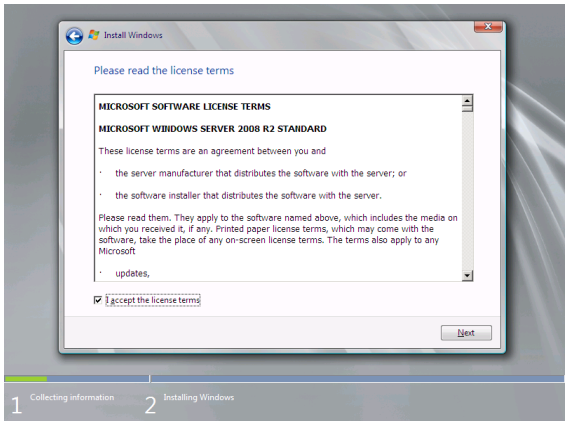
22. When the following window appears, select the Windows edition you have purchased and your preferred installation method.


Install Windows
Select the operating system you want to install
Operating system
Architecture
Date modified
Windows Server 2008 R2 Standard (Full Installation)
x64
7/14/2009
Windows Server 2008 R2 Standard (Server Core Installation)
Windows Server 2008 R2 Enterprise (Full Installation)
Windows Server 2008 R2 Enterprise (Server Core Installation)
Windows Server 2008 R2 Datacenter (Full Installation)
Windows Server 2008 R2 Datacenter (Server Core Installation)
Windows Web Server 2008 R2 (Full Installation)
Windows Web Server 2008 R2 (Server Core Installation)
Description:
This option installs the complete installation of Windows Server. This installation includes the entire user interface, and it supports all of the server roles.
Next
1 Collecting information
2 Installing Windows

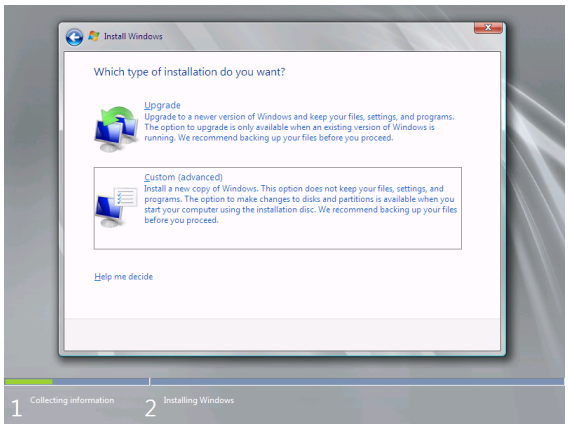
Tips

The Windows versions that appear on the screen differ depending on the OS installation media used.

23. When the following window appears, confirm the content of the license agreement.
If you agree, select **I accept the license terms** and then click [Next].


Install Windows
Please read the license terms
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT WINDOWS SERVER 2008 R2 STANDARD
These license terms are an agreement between you and
the server manufacturer that distributes the software with the server; or
the software installer that distributes the software with the server.
Please read them. They apply to the software named above, which includes the media on which you received it, if any. Printed paper license terms, which may come with the software, take the place of any on-screen license terms. The terms also apply to any Microsoft
updates,
I accept the license terms
Next
1 Collecting information
2 Installing Windows

24. When the following message appears, select the installation type.
Select **Custom (advanced)** in this case.


Install Windows
Which type of installation do you want?
Upgrade
Upgrade to a newer version of Windows and keep your files, settings, and programs. The option to upgrade is only available when an existing version of Windows is running. We recommend backing up your files before you proceed.
Custom (advanced)
Install a new copy of Windows. This option does not keep your files, settings, and programs. The option to make changes to disks and partitions is available when you start your computer using the installation disc. We recommend backing up your files before you proceed.
Help me decide
1 Collecting information
2 Installing Windows

25. The “Where do you want to install Windows?” window appears.

Note

Go to Step 29 if RAID Controller is not used.

Click **Load Driver**.

If the following message appears, replace the OS installation media and EXPRESSBUILDER DVD in the optical disk drive, and then click [Browse]. Next, go to step 26.

```
Load Driver
To install the driver needed to access your hard drive, insert
the installation media containing the driver files, and then click
OK.

Note: The installation media can be a floppy disk, CD, DVD, or
USB flash drive.

[Browse] [OK] [Cancel]
```

Tips

- If using Internal Flash Memory, you do not need to remove the OS installation media.
- At this time, a message “The Installation media can be a floppy disk, CD, DVD, or USB flash drive.” Appears on the screen, you must use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.

26. Specify the following locations, and then click [OK].
When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory, select the volume of INTER-FLASH.

N8103-149/150/151 RAID Controller :

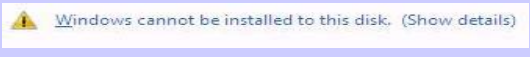
```
\021\win\winnt\oemfd\ws2008r2\megasas2
```

27. Select the necessary driver from the driver list shown, and then click [Next].
When using the N8103-149/150/151 RAID Controller
[**LSI MegaRAID SAS 9267-8i**]

28. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.

Tips

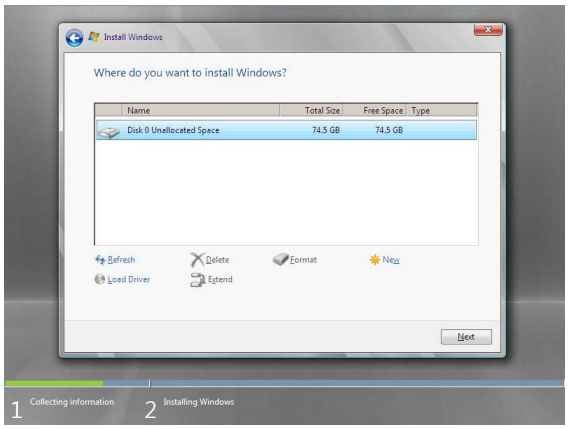
If you have not replaced the OS installation media after loading the driver, the following message may appear.



If it appears, replace the OS installation media, and then click [Refresh].

29. When the following window appears, select the disk in which the partition will be created, and then click **Drive options (advanced)**.

If a partition has already been created, go to step 32.



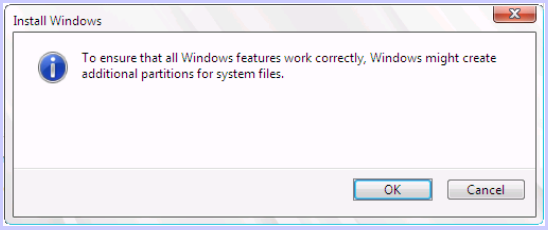
30. Click [New], enter the partition size into the size input box, and then click [Apply].

Note

When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.

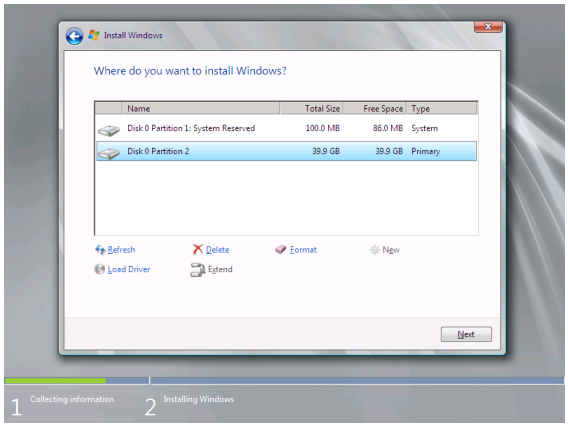
Tips

When creating a new partition and installing the OS, a 100 MB boot partition is created. When the following window appears, click [OK].


Install Windows
To ensure that all Windows features work correctly, Windows might create additional partitions for system files.
OK
Cancel

31. Select the partition created in step 30, and then click [Format].

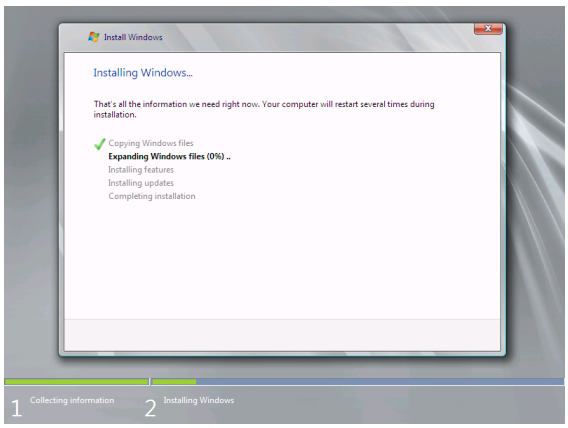
32. In the window below, select the created partition, and then click [Next].



Tips

The number of partitions displayed differs depending on the hardware configuration.

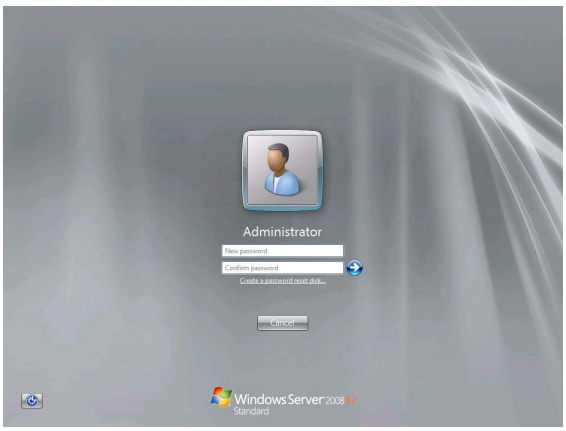
When the following message appears, Windows installation starts automatically.


Install Windows
Installing Windows...
That's all the information we need right now. Your computer will restart several times during installation.
Copying Windows files
Expanding Windows files (0%) ..
Installing features
Installing updates
Completing installation
1 Collecting information
2 Installing Windows

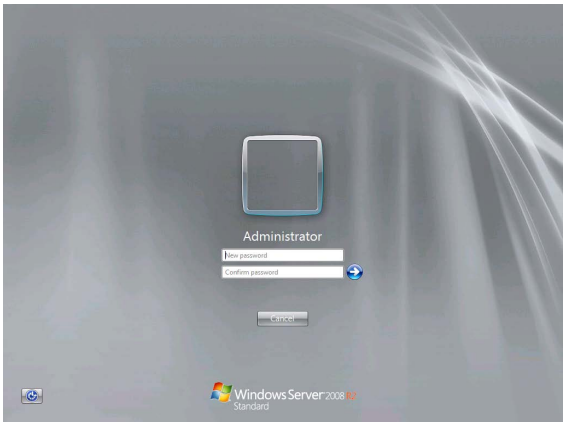
33. After a Full installation of Windows Server 2008 R2 is completed, the following window appears, prompting you to change your password before logging on. Click [OK].

34. Change your password, and then click the [ ] button.

Full installations:



Server Core installations:

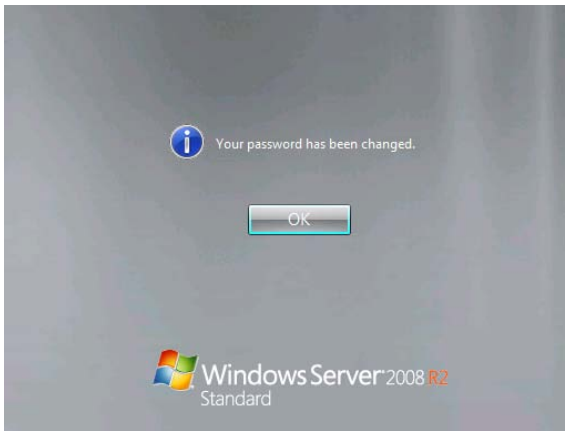


Tips

Passwords must fulfill the following requirements in Windows Server 2008 R2.

- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

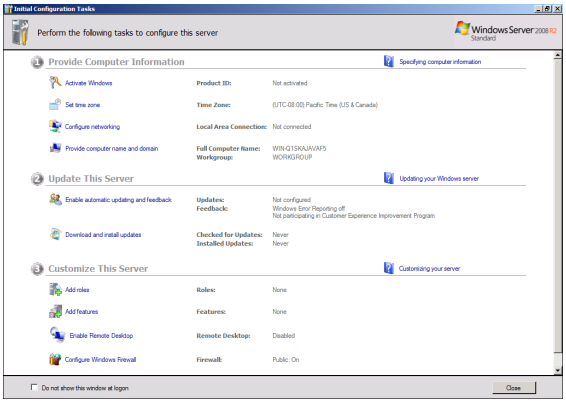
35. When the following message appears, click [OK].



36. Confirm the following according to the settings selected (displayed) in Step 22.

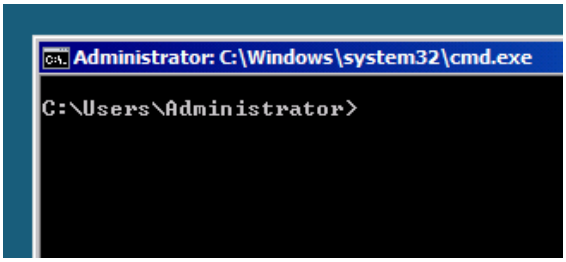
Full installations:

When the Initial Configuration Tasks window appears after you log on, enter the user information.



Server Core installations:

The command prompt will appear. Set the user information.



Tips For detailed setup procedures, refer to the Microsoft "*Step by Step Guide*".

37. Install Starter Pack by referring to *Chapter 1* (*3.4 Installing Starter Pack)*.
38. Install drivers and specify detailed settings by referring to *Chapter 1 (3.5 Setting Up Device Drivers)*.
39. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
40. Apply Service Pack as needed according to *Chapter 1 (3.9 Applying Service Pack*).
41. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems).*

Setup with OS standard installer is now complete.

3.5 Installing Starter Pack

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

Important

Also install Starter Pack in the following cases.

- **The system configurations have changed (when internal option devices have been added or removed)**
  If a dialog box prompting you to restart appears after changing system configurations, click [No] and then install Starter Pack.
- **If the system was restored using a restore process**
- **If a system has been restored using the backup tool**

Note

The Scalable Networking Pack (SNP) function is disabled upon Starter Pack installation is complete.
The setting of SNP function may affect the system performance.

Tips

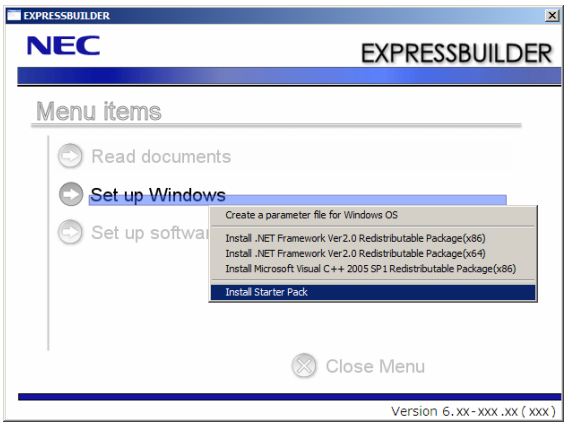
If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied. If the configuration is not changed, you do not need to apply Starter Pack again.

3.5.1 When using EXPRESSBUILDER DVD

1. Log on to the system with the built-in administrator, which has administrative privileges.
2. Insert EXPRESSBUILDER DVD into the optical disk drive.
3. Proceed application step according to the installation type.

Full installations

When Autorun Menu appears, click **Set up Windows** to open the short-cut menu and then select **Install Starter Pack**.



Server Core installations

(1) From the command prompt, type the following command. (for example, D drive.)

```
Cd /d D:\021\win\winnt\bin
```

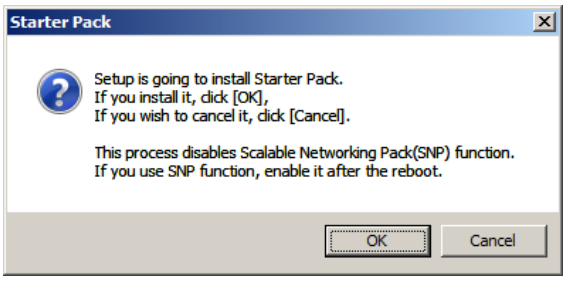
```
C:\Users\administrator>cd /d D:\021\win\winnt\bin
```

(2) Enter the following, and then press <Enter> key.

```
Pkgsetup.vbs
```

```
D:\021\win\winnt\bin>pkgsetup.vbs
```

4. The setup message appears.

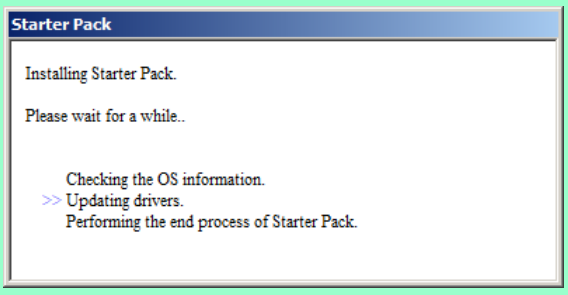

Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
This process disables Scalable Networking Pack(SNP) function.
If you use SNP function, enable it after the reboot.
OK
Cancel

Tips Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

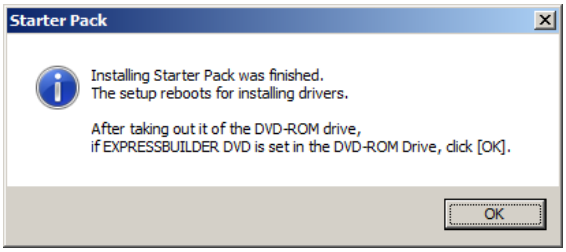
Read the message that appears, and then click [OK].

Starter Pack installation starts.

Note If you chose Full installation, the following progress message will appear while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

5. When the following message appears, Starter Pack installation is complete. Follow the instructions in the message, and remove EXPRESSBUILDER DVD.


Starter Pack
Installing Starter Pack was finished.
The setup reboots for installing drivers.
After taking out it of the DVD-ROM drive,
if EXPRESSBUILDER DVD is set in the DVD-ROM Drive, click [OK].
OK

6. Click [OK] and then restart the system.

Installation of Starter Pack is now complete.

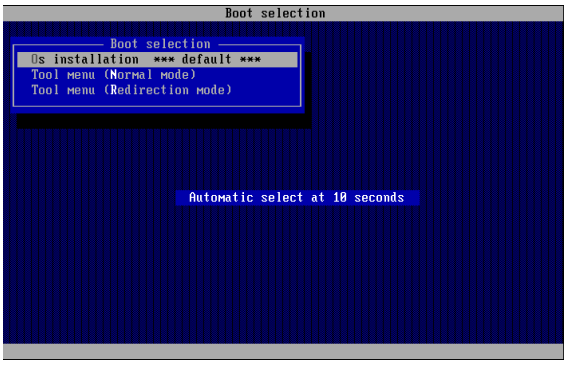
3.5.2 When using Internal Flash Memory

(Optional "Internal Flash Memory " is required)

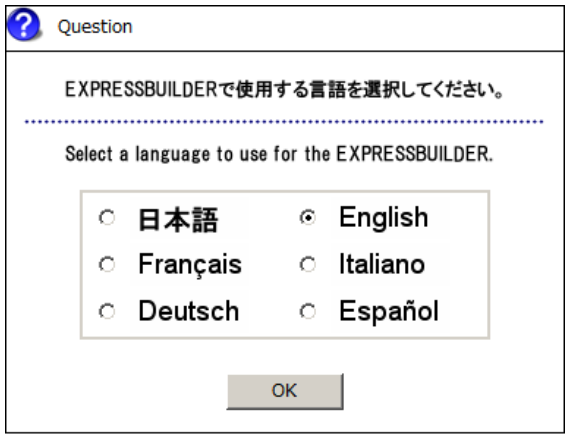
1. After installing the operating system, the system will restart.
2. Use Internal Flash Memory to run EXPRESSBUILDER.
When “Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network” appears during POST, press <F3> key.

Note At this time, be sure to remove the DVD from the optical disk drive.

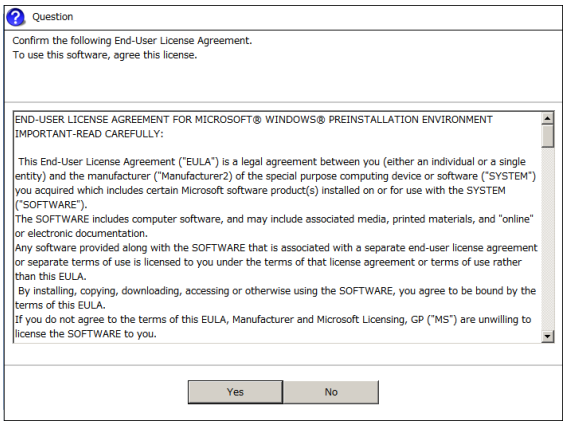
3. When the following message appears, select **Os installation *** default *****.
You will automatically advance to the next window, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

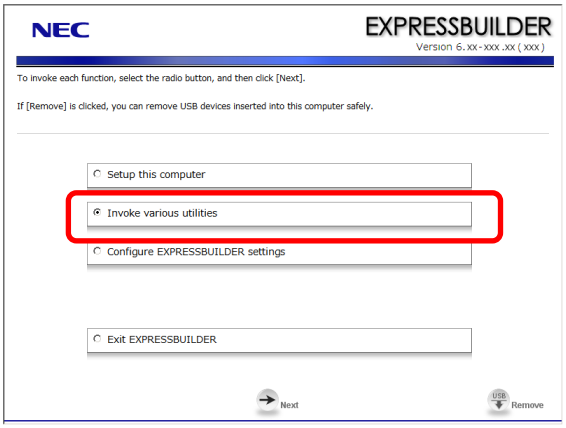


5. When the Windows PE software license agreement window appears, click [Yes].

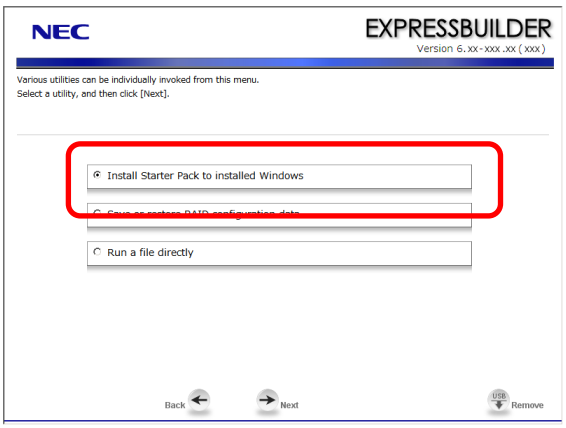

Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

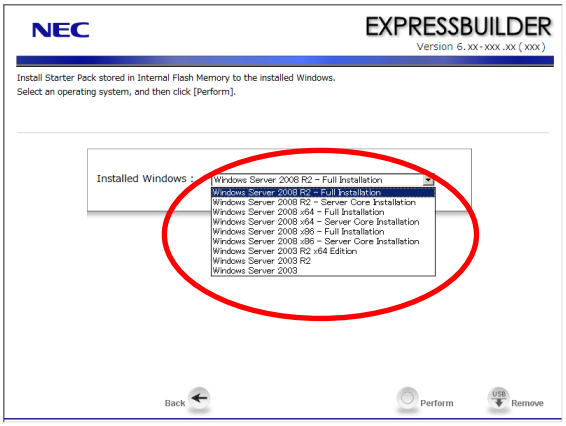
6. Select **Invoke various utilities** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

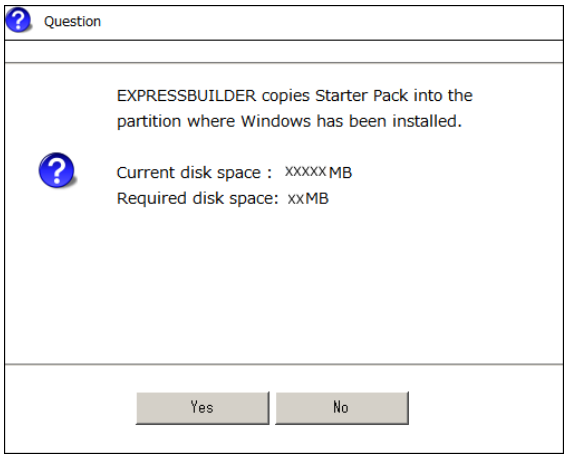
7. Select **Install Starter Pack to installed Windows** and then click [Next].



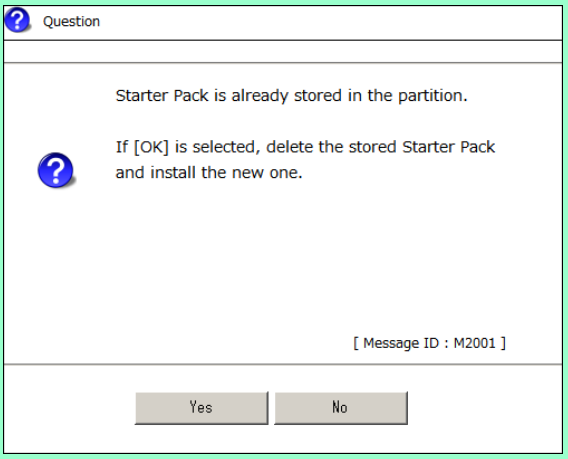
8. Select the installed Windows from the drop-down list, and then click [Perform].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
Install Starter Pack stored in Internal Flash Memory to the installed Windows.
Select an operating system, and then click [Perform].
Installed Windows :
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Server Core Installation
Windows Server 2008 x64 - Full Installation
Windows Server 2008 x64 - Server Core Installation
Windows Server 2008 x86 - Full Installation
Windows Server 2008 x86 - Server Core Installation
Windows Server 2003 R2 x64 Edition
Windows Server 2003 R2
Windows Server 2003
Back
Perform
Remove

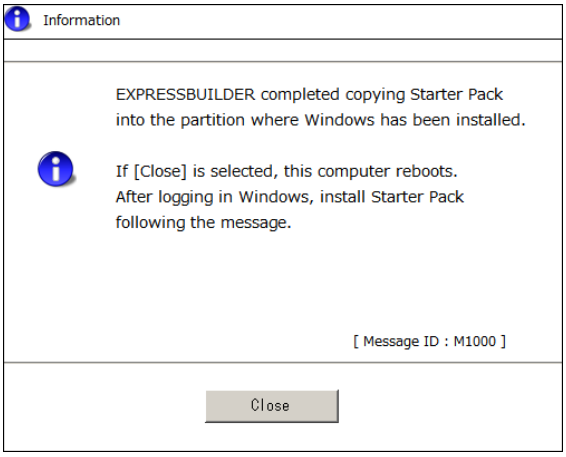
9. When the following confirmation window appears, read the content and then click [Yes].


Question
EXPRESSBUILDER copies Starter Pack into the partition where Windows has been installed.
Current disk space : XXXXX MB
Required disk space: xx MB
Yes
No

Note The following window will appear if Starter Pack has been installed.
Read the message, and then click [Yes].


Question
Starter Pack is already stored in the partition.
If [OK] is selected, delete the stored Starter Pack and install the new one.
[Message ID : M2001]
Yes
No

10. After copying the files, the following window appears. Click [Close].


Information
EXPRESSBUILDER completed copying Starter Pack into the partition where Windows has been installed.
If [Close] is selected, this computer reboots. After logging in Windows, install Starter Pack following the message.
[Message ID : M1000]
Close

The server then restarts.

Note You do not need to press <F3> key at this time.

11. Proceed application step according to the installation type.

Full installations

After Windows starts, the following window appears. Click [OK].

Server Core installations

(1) Enter the following command at the command prompt, and then specify the drive letter of System Drive (usually, C drive).

```
Cd /d C:\StartPKG\bin
```

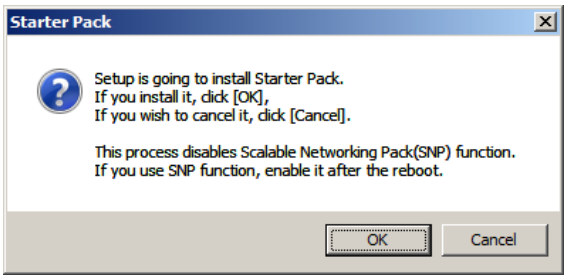
```
C:\Users\administrator>cd /d C:\StartPKG\bin
```

(2) Enter the following, and then press <Enter> key.

```
Pkgsetup.vbs
```

```
C:\StartPKG\bin>pkgsetup.vbs
```

12. Read the message that appears, and then click [OK].

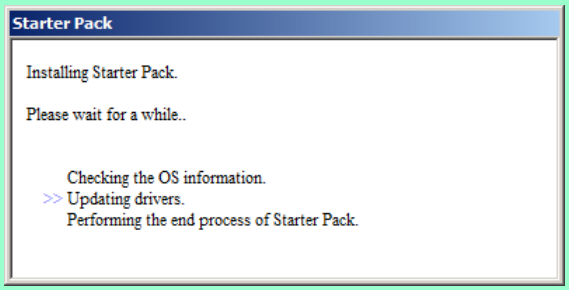

Starter Pack
Setup is going to install Starter Pack.
If you install it, dick [OK],
If you wish to cancel it, dick [Cancel].
This process disables Scalable Networking Pack(SNP) function.
If you use SNP function, enable it after the reboot.
OK
Cancel

Tips Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

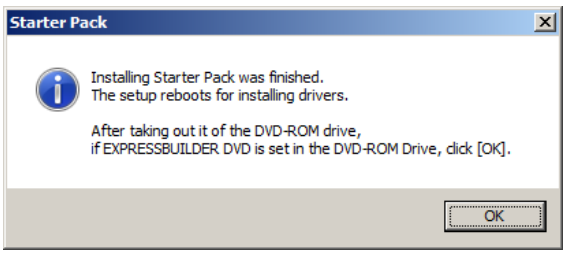
Installation of Starter Pack starts.

Note

If you chose Full installation, the following progress message appears while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup reboots for installing drivers.
After taking out it of the DVD-ROM drive,
if EXPRESSBUILDER DVD is set in the DVD-ROM Drive, click [OK].
OK

13. Click [OK] to restart the system.

Installation of Starter Pack is now complete.

3.6 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver for an optional device, refer to the manual supplied with the optional device.

3.6.1 Installing the LAN and BACS (teaming) drivers

(1) LAN and BACS drivers

LAN and BACS driver are installed at the time for Windows pre-installed model.
If EXPRESSBUILDER is used for setup, the LAN and BACS driver will automatically be installed.
If the OS standard installer is used for setup, install Starter Pack to install the LAN and BACS driver.

Important **WOL is supported by the standard network adapters only.**

Note

- To change the LAN or BACS driver settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.
- Be sure to select the **Internet Protocol (TCP/IP)** check box when specifying an IP address.

(2) Optional LAN board / Riser Card

This server supports the following optional LAN boards / Riser Card.
The drivers for LAN boards / Riser Card are automatically installed using the OS plug-and-play function.

Optional LAN boards: N8104-128/132/138

Optional Riser Card: N8104-135

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration
Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:
[N8104-128] Broadcom BCM57711 NetXtreme II 10 GigE (NDIS VBD Client) #xx*
[N8104-132/138] Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional Riser Card:
[N8104-135] Broadcom NetXtreme Gigabit Ethernet #xx*

* If there are adapters with the same name, a different identification number will be assigned to *xx*.

Tips The ID for N8104-128 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

3.6.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

1. Open the **Device Manager**.
2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
3. Select the **Advanced** tab, and then set the **Speed & Duplex** values to the same as those of the switching hub.
4. Click [OK] in the Network Adapter Properties dialog box.
5. Restart the system.

The link speed setting is now complete.

(2) Setting the iSCSI Offload Engine (if using N8104-128)

If using N8104-128 with the server, iSCSI Offload Engine must be set to off.

Follow the procedure below to set it.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window. **Broadcom Advanced Control Suite3** starts.
2. Select **Device Management** under **Explorer View**, and then **N8104-128 network adapter** from **System device (VBD)**.
3. Select the **Configurations** tab, and then expand **Resource Reservations**.
4. Remove a checkmark from [iSCSI Offload Engine] under [Pre-Allocated Resource], if checked. Then, click [Apply].
5. Complete steps 2 to 4 for each N8104-128 network adapter.
6. Restart the system.

iSCSI Offload Engine setup is now complete.

Important **Please refer to "N8104-128 LAN Driver Installation Guide" that is attached to the LAN boards to configure N8104-128.**

3.6.3 Setting up team/LiveLink

Note

- When deleting the team, refer to *Chapter 1 (3.6.3 Setting up team/LiveLink) – (4) Procedure for deleting team*. When replacing the motherboard or a LAN board, follow these steps to remove the team and then create it again after replacement.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.

(1) Team types

The following team types are supported.

- **Smart Load Balancing and Failover (without Standby Member)**
  All adapters that compose the team perform communication.
  If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.
  When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.
- **Smart Load Balancing (Auto-Failback Disable) (with Standby Member)**
  Among the adapters that compose the team, primary adapters except the standby member perform communication.
  If a communication failure occurs, the standby member continues the communication.
  When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters.
It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.
If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

Note

- You must set up LiveLink when you create a team.

(3) Setting up team/LiveLink

Note

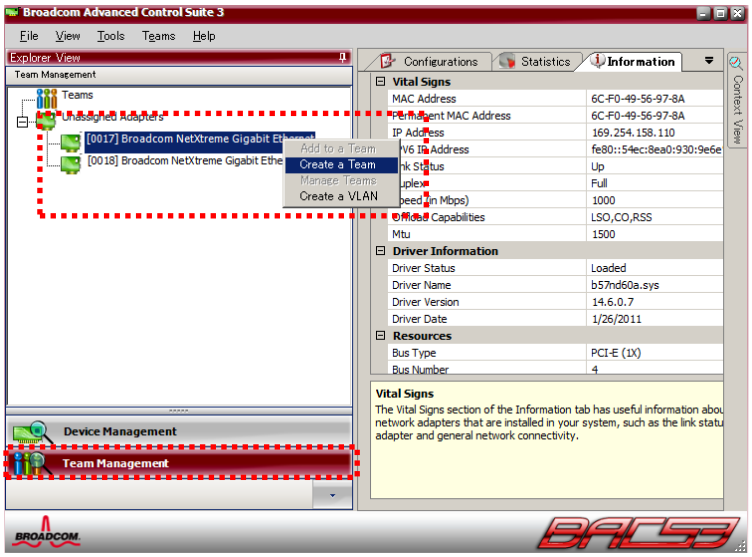
- The team must be composed of two adapters.
- Possible combinations of network adapters that compose the team are as follows.
  - Between standard network adapters.
  - Between N8104-128 adapters
  - Between LAN card/riser cards excluding N8104-128
  - A standard network adapter and LAN board / Riser Card(N8104-128 does not include.)

Tips

To edit a team, right-click on the BACS team, and then select **Edit TEAM**.

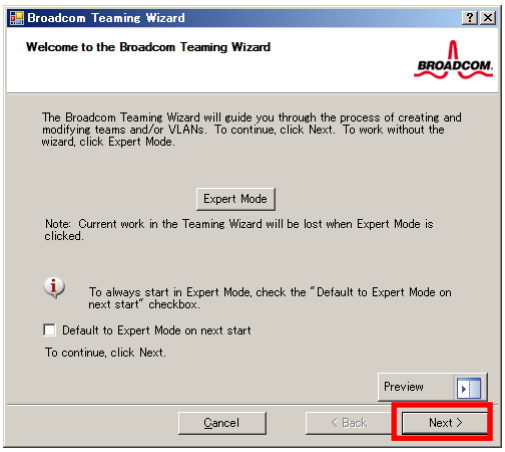
Then refer to step 3 and later in *Chapter 1 (3.6.3 Setting up team/LiveLink) – (3) Setting up team* to edit the team.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Select **Team Management** from the left menu, right-click the adapter to be used for the team, and then select **Create a Team** from the short-cut menu.



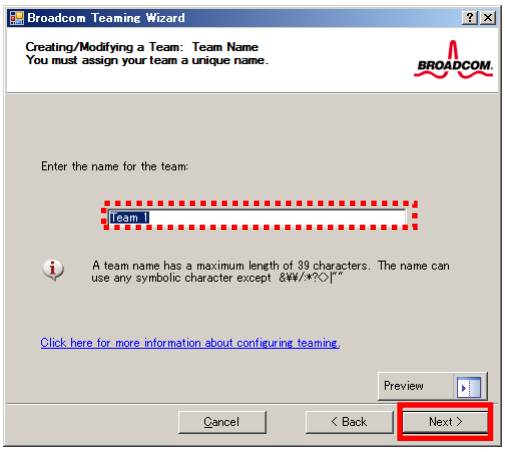
The **Broadcom Teaming wizard** appears.

3. Click [Next].

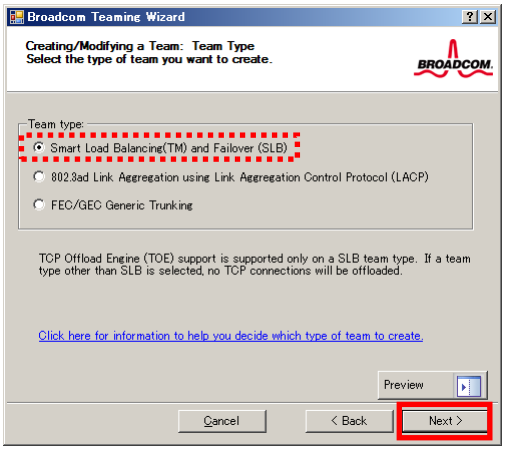

Broadcom Teaming Wizard
Welcome to the Broadcom Teaming Wizard
BROADCOM.
The Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs. To continue, click Next. To work without the wizard, click Expert Mode.
Expert Mode
Note: Current work in the Teaming Wizard will be lost when Expert Mode is clicked.
To always start in Expert Mode, check the "Default to Expert Mode on next start" checkbox.
Default to Expert Mode on next start
To continue, click Next.
Preview
Cancel
< Back
Next >

Note Do not use Expert Mode.

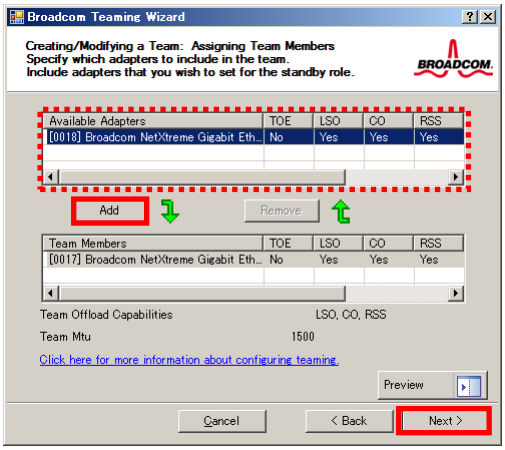
4. Enter any name into the team name entry column, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Name
You must assign your team a unique name.
BROADCOM.
Enter the name for the team:
Team 1
A team name has a maximum length of 39 characters. The name can use any symbolic character except &¥¥/*?◇|'"
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

5. Make sure that the following team type is selected, and then click [Next].
Team type: Smart Load Balancing WITH and Failover (SLB)


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Type
Select the type of team you want to create.
BROADCOM.
Team type:
Smart Load Balancing(TM) and Failover (SLB)
802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP)
FEC/GEC Generic Trunking
TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team type other than SLB is selected, no TCP connections will be offloaded.
Click here for information to help you decide which type of team to create.
Preview
Cancel
< Back
Next >

6. Select the adapters that compose the team, click [Add] to add them to the **Team Members** area, and then click [Next].

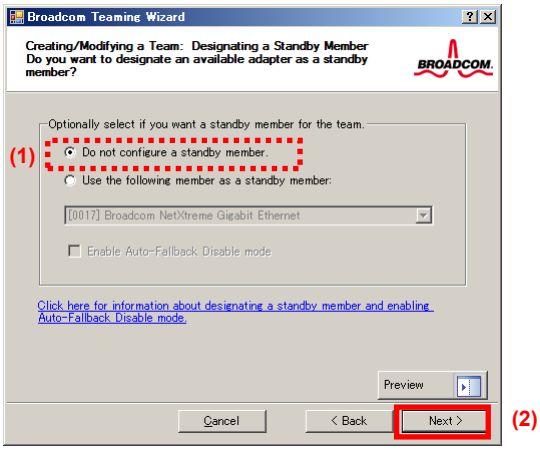


7. Proceed according to your desired team type.

– Smart Load Balancing and Failover (without Standby Member)

(1) Select **Do not configure a standby member**.

(2) Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
(1)
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Failback Disable mode
Click here for information about designating a standby member and enabling Auto-Failback Disable mode.
Preview
Cancel
< Back
Next >
(2)

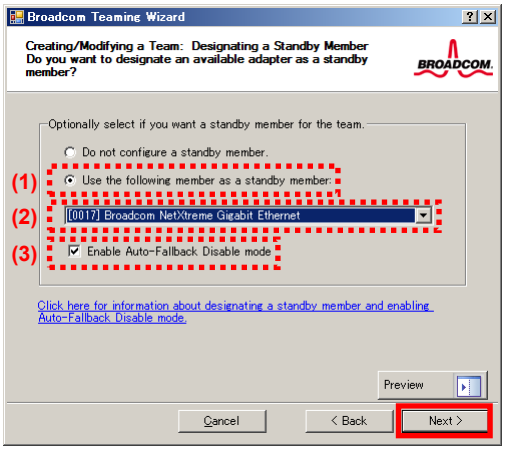
– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

(1) Select **Use the following member as a standby member**.

(2) Select the adapter that is to be a standby member from the drop-down list.

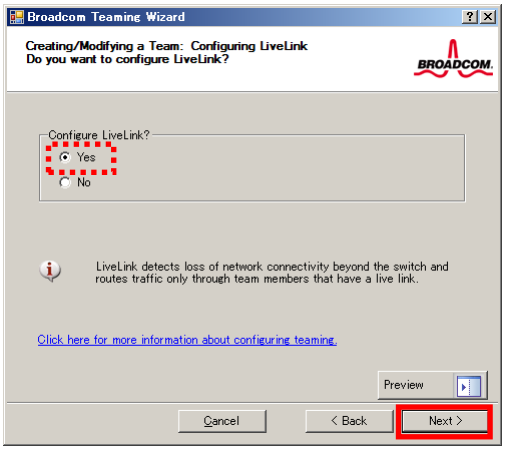
(3) Select **Enable Auto-Failback Disable mode**.

(4) Click [Next].

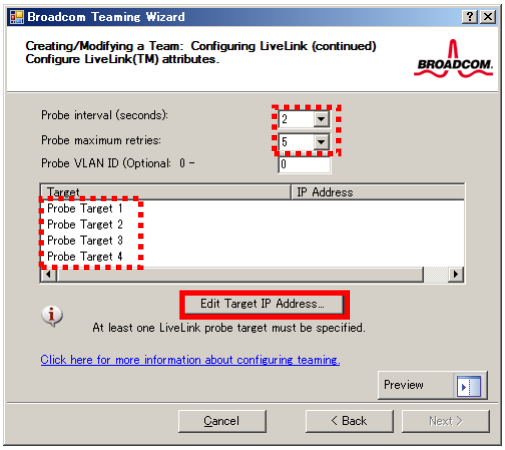

Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Failback Disable mode
(1)
(2)
(3)
Click here for information about designating a standby member and enabling Auto-Failback Disable mode.
Preview
Cancel
< Back
Next >
(4)

Note *Enable Auto-Failback Disable mode* is cleared while editing the team. Select it again.

8. Select **Yes** for **Configure LiveLink?**, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink
Do you want to configure LiveLink?
BROADCOM.
Configure LiveLink?
Yes
No
LiveLink detects loss of network connectivity beyond the switch and routes traffic only through team members that have a live link.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

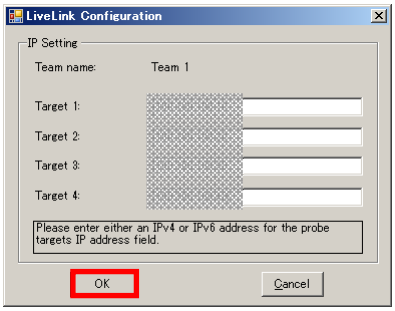
9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target *xx***), and then click [Edit Target IP Address…].



Tips

- The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds).
- The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times).
- Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.
  If an optional LAN board detects that a link is down, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down.

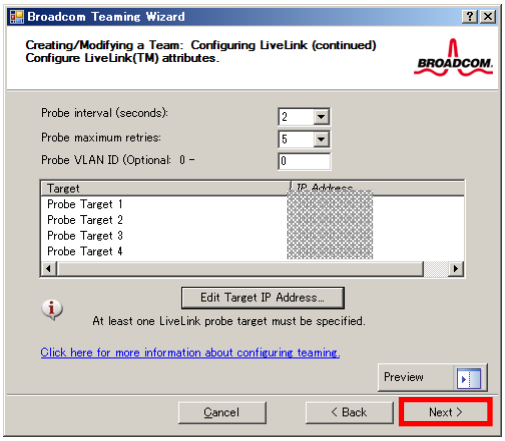
10. In the **Target *xx*** text box, enter the IP address of the alive monitoring server, and then click [OK].



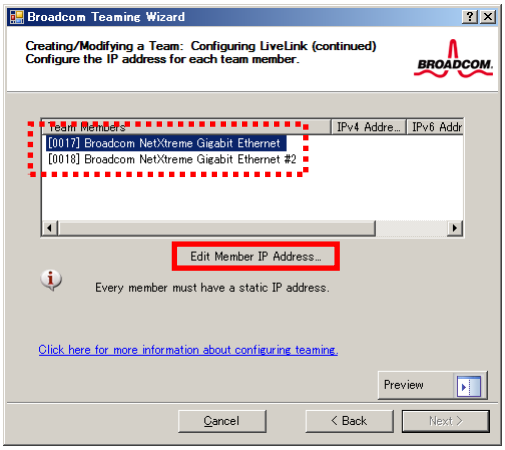
Note

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

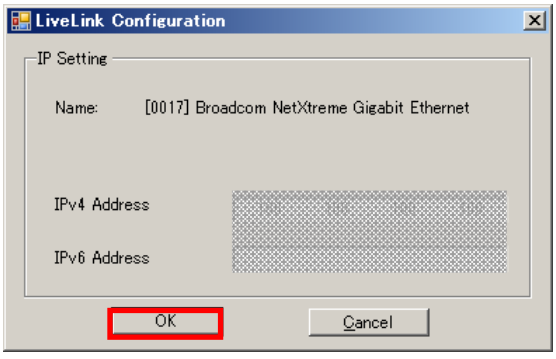
11. Click [Next].



12. Select an adapter from the **Team Members** area, and then click [Edit Member IP Address…].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Addre...
IPv6 Addr
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

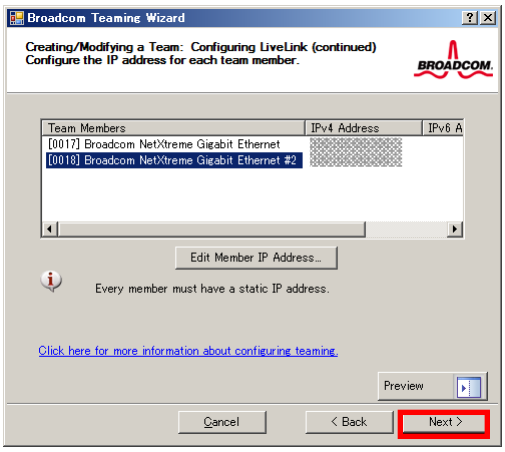
13. Enter the IP address used for LiveLink communication, and then click [OK].



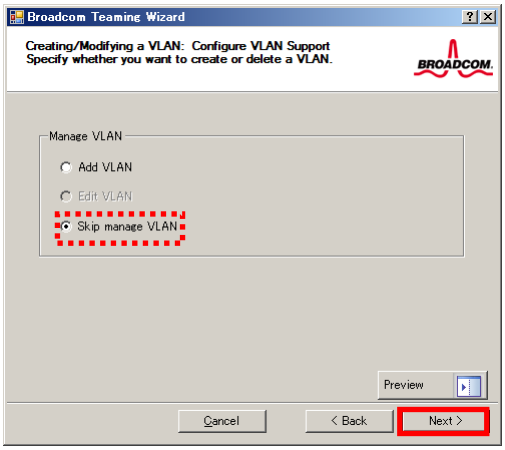
Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

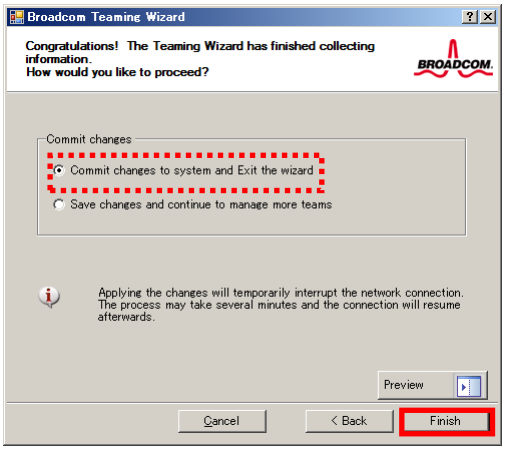
14. Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Address
IPv6 A
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click [Next].



16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click [Finish].


Broadcom Teaming Wizard
Congratulations! The Teaming Wizard has finished collecting information.
How would you like to proceed?
BROADCOM.
Commit changes
Commit changes to system and Exit the wizard
Save changes and continue to manage more teams
Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards.
Preview
Cancel
< Back
Finish

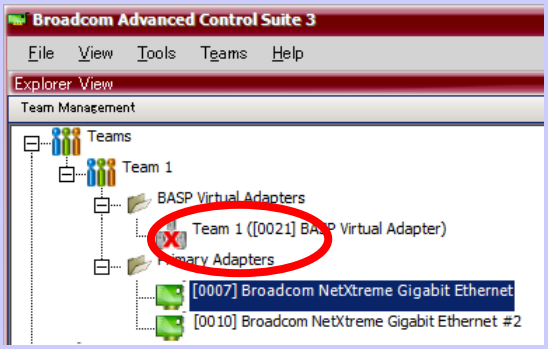
Note

When the message below appears, select [Yes].

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?"

Tips

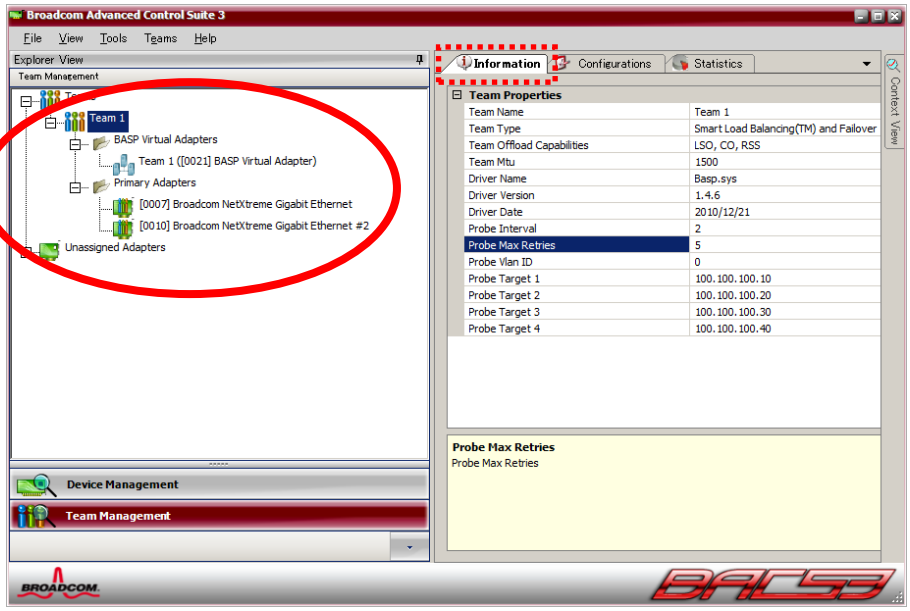
After creating a team, if the teaming adapter displays like the following image, perform steps 8 through 14 again and correct the LiveLink settings.



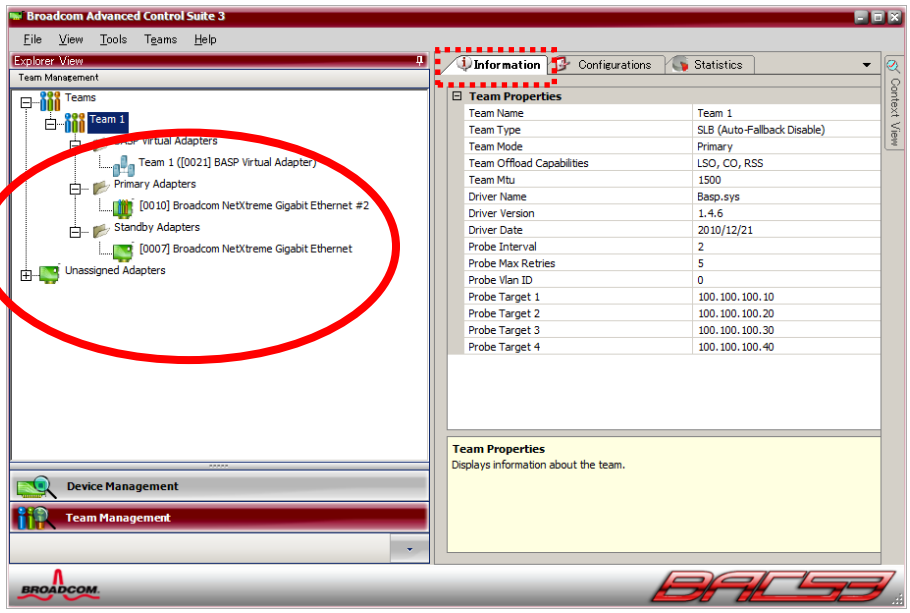
17. Restart the system.

18. After the system starts, follow step 1 to start **Broadcom Control Suite3** and confirm that a team has been created. Confirm the team settings on the **Information** window to the right.

– Smart Load Balancing and Failover (without Standby Member)



– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)



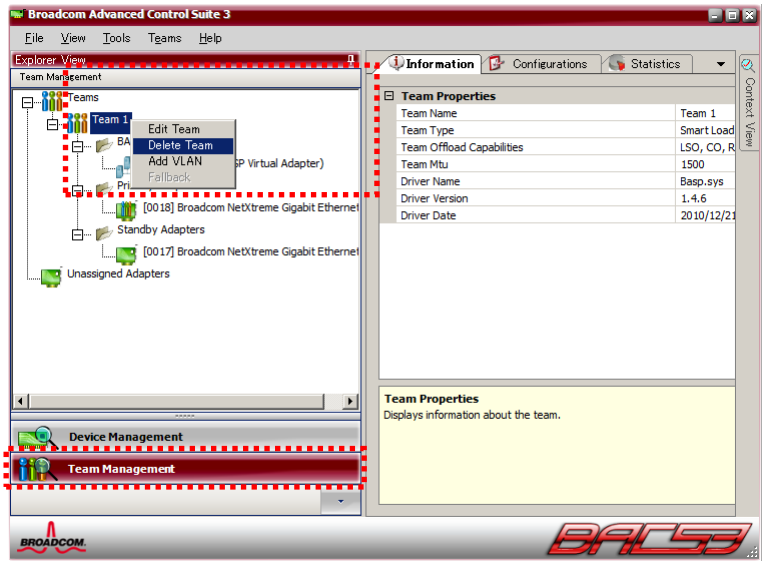
Team setup is now complete.

(4) Procedure for deleting team

Tips

You must delete teams from Broadcom Control Suite3.
You cannot delete the team from the team adapter displayed in the Device Manager.

1. Double-click **Broadcom Control Suite3** in the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Click **Team Management** from the left menu, right-click the team name under **Teams**, and then select **Delete Team** from the short-cut menu.



Tips

When the message below appears, select [Yes].

"The selected team will be deleted from system, do you want to proceed?

NOTE: Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards."

3. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If Autorun Menu appears, close the menu.

Tips

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

4. Double-click `addlvlanstats.vbs` in the following folder.
   - When using EXPRESSBUILDER DVD:
     Optical disk drive:\021\win\winnt\ws2008x64\lan
   - If Starter Pack was installed from Internal Flash Memory:
     System drive:\StartPKG\ws2008x64\lan

5. When the following message appears, click [OK].

6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

3.6.4 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

The graphic accelerator driver is automatically installed on pre-installed model or during setup with EXPRESSBUILDER.

Tips The graphics accelerator driver is only enabled in Full installations. Standard VGA is used in the case of Server Core installation.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If Autorun Menu appears, close the menu.

   Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

2. From the **Start** menu, point to **All programs**, **Accessories**, and then select **Explorer**.
3. Double-click the **install.bat** icon in the following folder.
   - When using EXPRESSBUILDER DVD:
     Optical disk drive:\021\win\winnt\ws2008x64\video
   - If Starter Pack was installed from Internal Flash Memory:
     System drive:\StartPKG\ws2008x64\video

   You will be prompted to confirm the End User License Agreement during this process. Click the [ACCEPT] button and continue.
4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

3.6.5 When using a SCSI controller (N8103-107)

The driver for SCSI controller N8103-107 is automatically installed by Windows Plug-and-Play.

3.6.6 When using a SAS controller (N8103-104A/142)

The driver for SAS controller N8103-104A/142 is automatically installed by Windows Plug-and-Play.

3.6.7 When using a RAID Controller (N8103-160)

The driver for RAID Controller N8103-160 is automatically installed by Windows Plug-and-Play.

3.6.8 When using a Fibre Channel controller (N8190-153/154)

The driver for Fibre Channel controller N8190-153/154 is automatically installed by Windows Plug-and-Play.

3.7 Installing the Bundled Software

The supplied EXPRESSBUILDER DVD contains the server monitoring software NEC ESMPRO Agent and system management software NEC ESMPRO Manager. You can install NEC ESMPRO Agent automatically by performing Setup with EXPRESSBUILDER.

Open the Programs or Control Panel window from the **Start** menu, and make sure that the folders for the utilities you have installed are contained. If you did not install them at the time of Setup with EXPRESSBUILDER, refer to *Chapter 2 Installing the Bundled Software* to install the software separately.

3.8 License Authentication

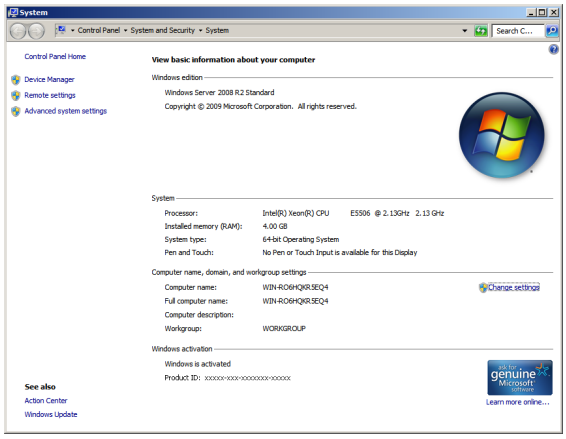
To use Windows Server 2008 R2, confirm whether the license has been authenticated, and if it has not, perform the license authentication procedure.

The following describes the license authentication procedure.

(1) Full installations

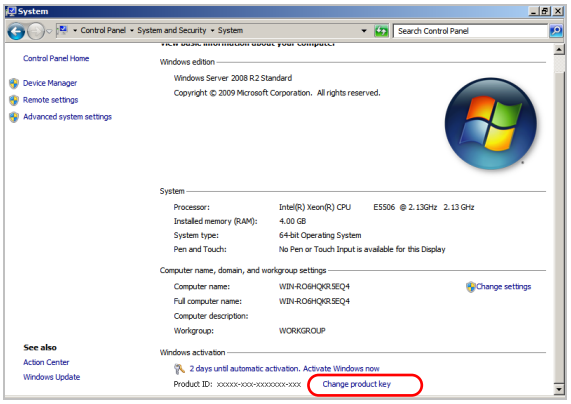
1. Open the **Control Panel** from the **Start** menu, click **System and Security**, and then select **System**.

   If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure.

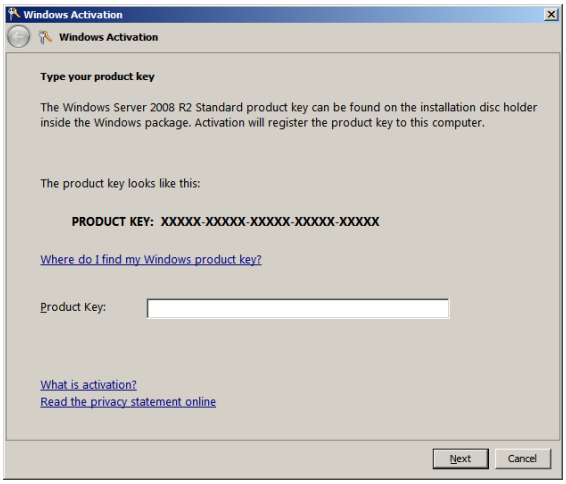


2. For installation from Backup DVD-ROM, replace the product key.

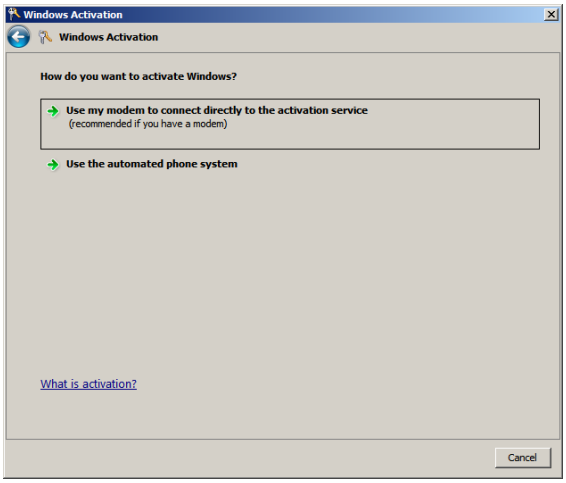
   When the following window appears, click **Change product key**.



3. When the following window appears, enter the product key found on the COA label, and then click [Next].


Windows Activation
Windows Activation
Type your product key
The Windows Server 2008 R2 Standard product key can be found on the installation disc holder inside the Windows package. Activation will register the product key to this computer.
The product key looks like this:
PRODUCT KEY: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX
Where do I find my Windows product key?
Product Key:
What is activation?
Read the privacy statement online
Next
Cancel

4. Follow the instructions in the following message to start the license authentication process.

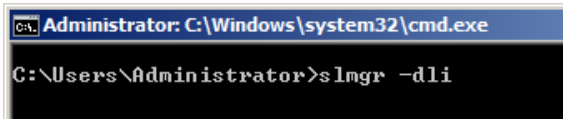

Windows Activation
Windows Activation
How do you want to activate Windows?
Use my modem to connect directly to the activation service
(recommended if you have a modem)
Use the automated phone system
What is activation?
Cancel

Windows activation is now complete.

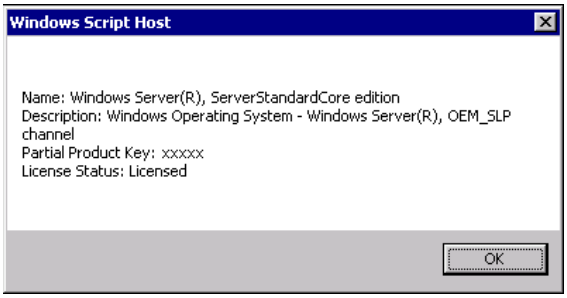
(2) Server Core installations

1. At the command prompt, enter the following, and then press <Enter> key.

```
slmgr -dli
```



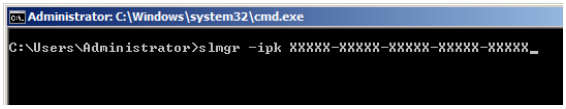
If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure. Click [OK] to finish.


Windows Script Host
Name: Windows Server(R), ServerStandardCore edition
Description: Windows Operating System - Windows Server(R), OEM_SLP channel
Partial Product Key: xxxxx
License Status: Licensed
OK

2. For installation from Backup DVD-ROM, replace the product key

   At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*.

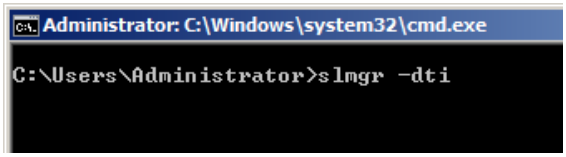
   ```
   slmgr -ipk PID
   ```



3. Obtain an installation ID for Windows activation.

   At the command prompt, enter the following, and then press <Enter> key.

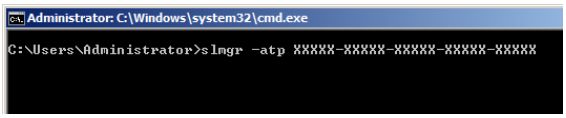
   ```
   slmgr -dti
   ```



4. Reference `%systemroot%\system32\sppui\phone.inf` for the telephone number of the license authentication customer service.
5. Call the above number, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.
6. Type the confirmation ID you received in step 5.

   At the command prompt, enter the following, and then press <Enter> key. *CID* is the confirmation ID that you received from customer service.

   ```
   slmgr -atp CID
   ```



Windows activation is now complete.

3.9 Applying Service Pack

When applying Service Pack 1, refer to *"About Windows Server 2008 R2 and Windows 7 Service Pack 1"*.

http://www.58support.nec.co.jp/global/download/w2008r2/sp1.html

3.10 Installation When Multiple Logical Drives Exist

Before starting installation, backup data for future use in case of data loss.

Important **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.**

(1) Installation process

– Setup with EXPRESSBUILDER
Refer to *Chapter 1 (3.2 Setup with EXPRESSBUILDER)*, and proceed with setup.

In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

– Setup with OS standard installer

1. Refer to *Chapter 1 (3.3 Setup with OS Standard Installer)*, and start setup.
2. When the following message appears, select the partition to which you want to install the operating system.

```
Select the location to which Windows will be installed
```

The order and numbers of the disks displayed on the screen **might not match the server's slot** of the hard disk drives. **Distinguish between the hard disk drives by viewing the hard disk drive capacity and partition size** displayed on the screen, and then select a drive to install the Windows system.

Selecting an improper drive might cause an unintentional corruption of the existing data. Be careful when selecting a hard disk drive on which to install the system.

Important
- **For details, refer to the following Microsoft website:**
  http://support.microsoft.com/kb/937251/en-us
- **You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this window are correct, and then proceed with setup.**

3. Refer to *Chapter 1 (3.4 Setup with OS Standard Installer)*, and proceed to setup Windows with OS standard installer and the instructions.

Tips The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in *Changing drive letter assignments* below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

1. From the **Start** menu, right-click **Computer** and then select **Management**. Next, launch **Server Manager**.
2. From the window on the left, select **Storage** and then **Disk Management**.
3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
4. Click [Change].
5. Click [Assign next drive letter], and then select the drive letter you want to assign.
6. Click [OK].
7. When the following message appears, read the contents and then click [OK].

```
Some programs are dependent on drive letters, and may
not run properly. Continue?
```

8. Close the Server Manager.

4. Setting Up Windows Server 2008

Set up Windows Server 2008.

4.1 Before Starting Setup

Read through the cautions explained here before starting setup.

EB: Confirm during Setup with EXPRESSBUILDER

OS: Confirm during Setup with OS standard installer

(1/5)

Setup		Items to confirm	
EB	OS	Windows family	The following editions of the Windows Server 2008 family may be installed. • Windows Server 2008 Standard 64-bit (x64) Edition • Windows Server 2008 Enterprise 64-bit (x64) Edition • Windows Server 2008 Standard 32-bit (x86) Edition • Windows Server 2008 Enterprise 32-bit (x86) Edition Inquiries about installing other editions may be made at your sales representative. For information about Service Packs, refer to *1.3 Service Pack Support*.
		Hardware configuration	The following hardware configurations require special procedures.
EB	OS		• **Reinstalling to a mirrored volume** Disable the mirroring and reset to the basic disk. After installation, enable the mirroring again. Use [Computer Management] – [Disk Management] to create, disable, or remove the mirrored volume.
EB	OS		• **Peripheral devices such as RDX/MO** Remove an MO device before installing an OS. Some peripheral devices need to be halted before installation. Refer to the manual provided with the peripheral devices for how to set a device appropriate to installation.
EB	OS		• **DAT, LTO, and similar media** Do not set media that is unnecessary to installation during setup.
EB	OS		• **Connecting to multiple hard disk drives (logical drives)** For details on reinstalling operating systems to a system in which multiple logical drives exist, refer to *Chapter 1 (4.10 Installation When Multiple Logical Drives Exist)*.

(2/5)

Setup		Items to confirm	
EB	OS	System partition size <Windows Server 2008 64-bit Edition>	The system partition size can be calculated by using the following formula. Size required to install the OS + paging file size + dump file size + application size **Full installations** Size required to install the OS = 11,600 MB (Windows Server 2008) = 12,300 MB (Windows Server 2008 with Service Pack 2) = 16,720 MB (Windows Server 2008 + Service Pack 2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application **Server Core installations** Size required to install the OS = 4,100 MB (Windows Server 2008) = 12,300 MB (Windows Server 2008 with Service Pack 2) = 9,300 MB (Windows Server 2008 + Service Pack 2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application For example, if the installed memory size is 1 GB (1,024 MB) and Full installation is selected, the partition size is calculated as follows: 11,600 MB + (1,024 MB × 1.5) + 1,024 MB + 300 MB + application size = 14,460 MB + application size **Note** • The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. • Regardless of the sizes of internal memory and write debug information, the maximum size of the dump file is "size of internal memory + 300 MB". • When installing other applications or other items, add the amount of space needed by the application to the partition. If the partition size for installing the system is smaller than the size required for installation + paging file size, expand the partition size or add another disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Write the debug information of the dump file onto another disk by referring to *Chapter 1 (7. Setup for Solving Problems)*. If there is not enough disk space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another disk for the dump file.

(3/5)

Setup		Items to confirm	
EB	OS	System partition size <Windows Server 2008 32-bit Edition>	The system partition size can be calculated by using the following formula. Size required to install the OS + paging file size + dump file size + application size **Full installations** Size required to install the OS = 6,300 MB (Windows Server 2008) = 9,300 MB (Windows Server 2008 with Service Pack 2) = 9,400 MB (Windows Server 2008 + Service Pack 2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application **Server Core installations** Size required to install the OS = 2,200 MB (Windows Server 2008) = 9,300 MB (Windows Server 2008 with Service Pack 2) = 5,300 MB (Windows Server 2008 + Service Pack 2) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 300 MB Application size = as required by the application For example, if the installed memory size is 1 GB (1,024 MB) and Full installation is selected, the partition size is calculated as follows: 6,300 MB + (1,024 MB × 1.5) + 1,024 MB + 300 MB + application size = 9,160 MB + application size **Note** • The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. • A paging file size of 4096 MB or greater cannot be specified for one partition in some system configurations. If a message prompting you to specify a value smaller than 4096 MB appears, specify 4095 MB. • If the mounted memory size is 2 GB or greater, the maximum size of the dump file is "2048 MB + 300 MB". • When installing other applications or other items, add the amount of space needed by the application to the partition. If the partition size for installing the system is smaller than the size required for installation + paging file size, expand the partition size or add another disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Write the debug information of the dump file onto another disk by referring to *Chapter 1 (7. Setup for Solving Problems)*. If there is not enough disk space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another disk for the dump file.

(4/5)

Setup		Items to confirm	
EB	OS	Upgrade to Windows Server 2008	In-place upgrade from Windows Server 2003 to Windows Server 2008 is not recommended because it overwrites the files and registries and might make an unexpected effect on the system and applications. If you want to use Windows Server 2008, back up the necessary data before installing Windows Server 2008. **Tips** In-place upgrade refers to overwriting an existing OS (in this case, Windows 2003) with another OS (Windows Server 2008).
EB	OS	Using BitLocker	If using BitLocker, note the following. • Before installing an OS, be sure to create the following two partitions in the hard disk drive: – System partition (to store the loader) – Boot partition (to store the OS) **Note** For details, refer to the following document provided in Microsoft TechNet: BitLocker Drive Encryption Step-by-Step Guide • Be sure to keep the recovery password secure. Do not keep it near a server running BitLocker. **Important** **If the recovery password is not entered, the OS cannot be started, and the content of the partition encrypted by BitLocker cannot be referenced any more.** **The recovery password might be required at startup of the OS after the following:** **– Replacement of motherboard** **– Initialization of trusted platform module (TPM)** **– Change of BIOS setting** • To reinstall the operating system into a partition that is encrypted with BitLocker, delete the BitLocker-encrypted partition prior to reinstallation.
EB	OS	Installing Service Pack	You can install the Service Pack on the server. When the Service Pack is not attached to your system, prepare it by yourself.
EB	OS	License authentication	License authentication might be required, depending on the installation of Windows. For details, refer to *Chapter 1 (4.8 License Authentication)*. **Note** • Activate within 60 days following installation. • A virtual product key is used when installing in a virtual environment. It is not used when directly installing an operating system to a physical server.

4.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide* ".

Important

- **Setup with EXPRESSBUILDER may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:**
  - **RAID settings wizard**
  - **Partition Settings in the Windows Setup wizard**

  Backing up user data, as needed, is recommended.
- **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.**

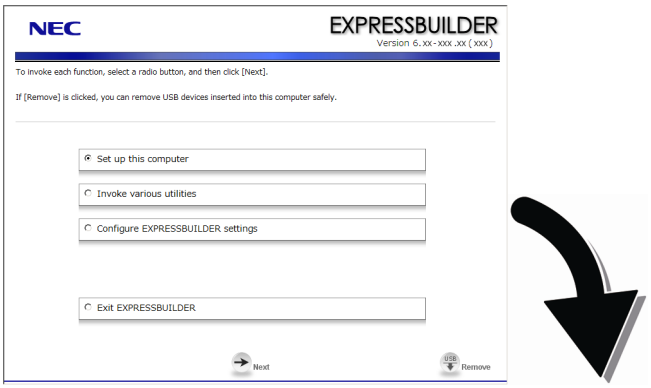
Note

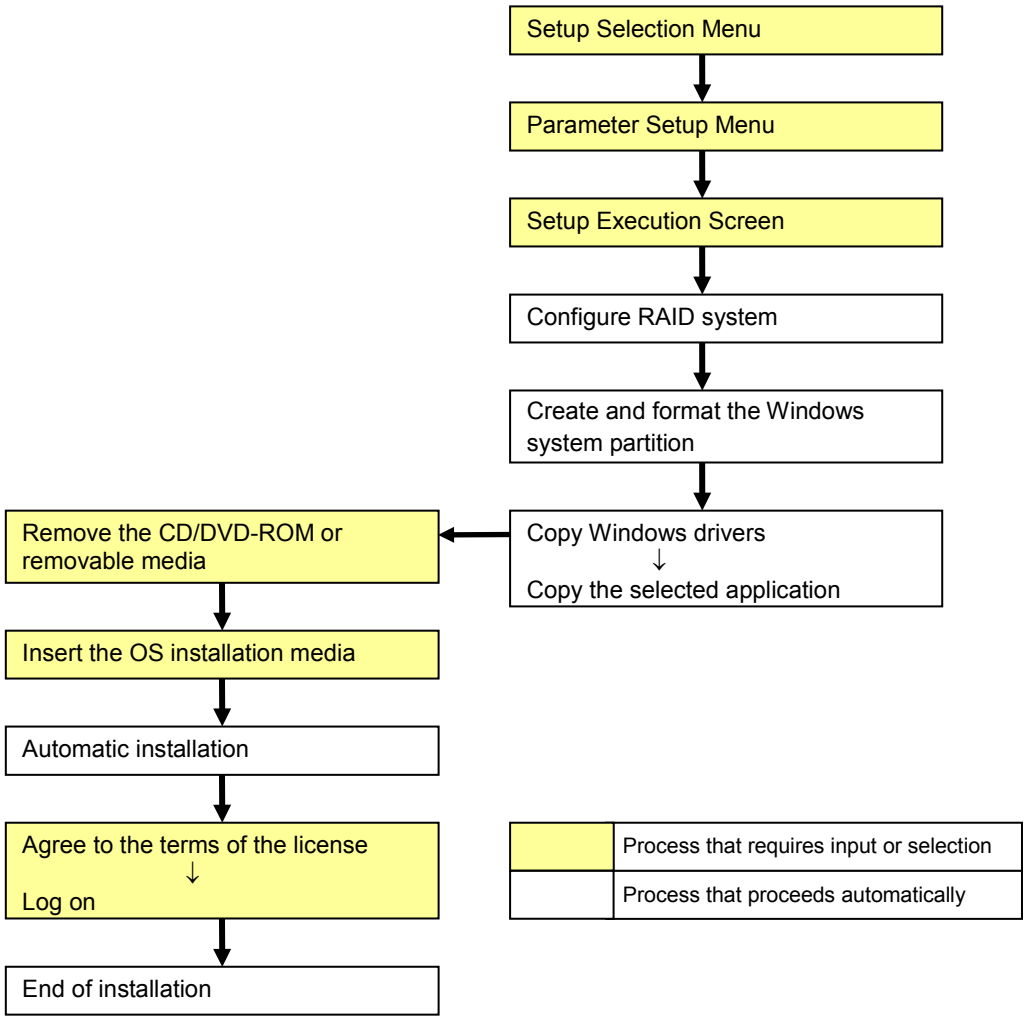
The Scalable Networking Pack (SNP) function is disabled on systems that have been installed by using EXPRESSBUILDER.
The setting of SNP function may affect the system performance.
Contact your sales representative for details.

Tips

- Setup with EXPRESSBUILDER allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *Chapter 1* (*8 Windows OS Parameter File)*.

4.2.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



4.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **NEC operating system installation media** (hereafter referred to as *Backup DVD-ROM*)
  - **Microsoft operating system installation media** (hereafter referred to as *Windows Server 2008 R2 DVD-ROM*)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory**
    (If "Internal Flash Memory" is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Service Pack**
    (If the OS installation media contains Service Pack 1, you need not apply the service pack again.)

Tips

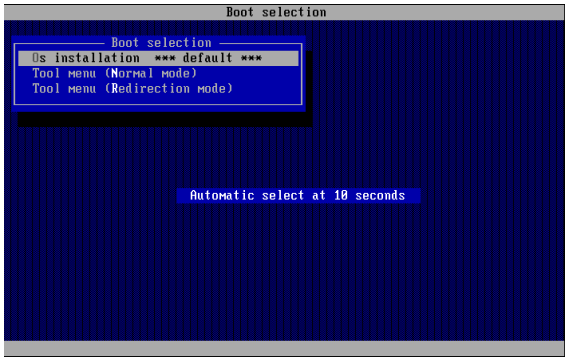
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

4.2.3 Setup procedure

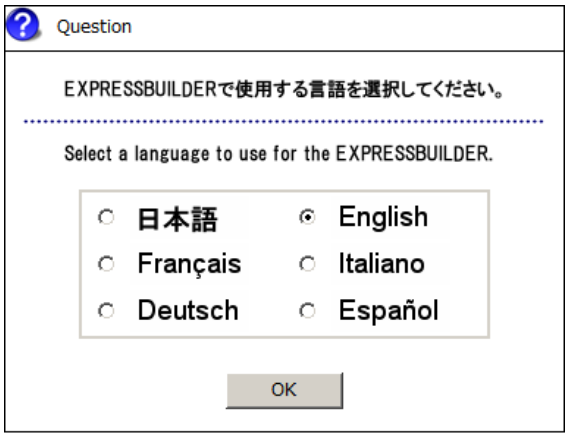
During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

Note Read through the items in *Chapter 1 (4.1 Before Starting Setup)* prior to installing Windows.

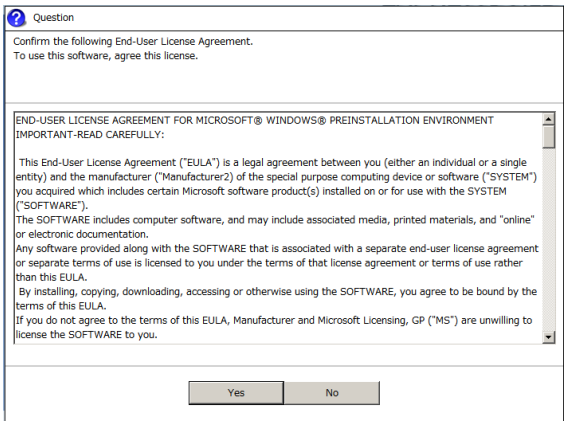
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to step 4, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

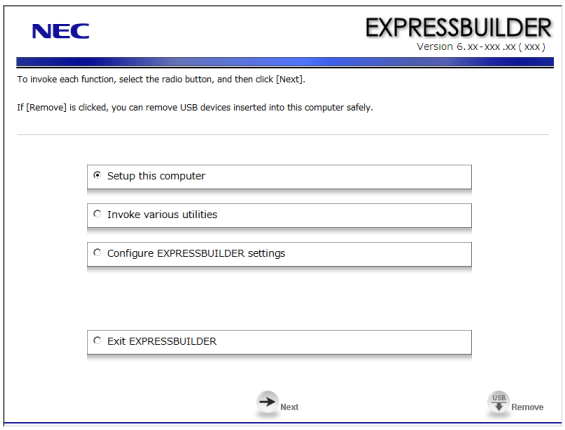


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

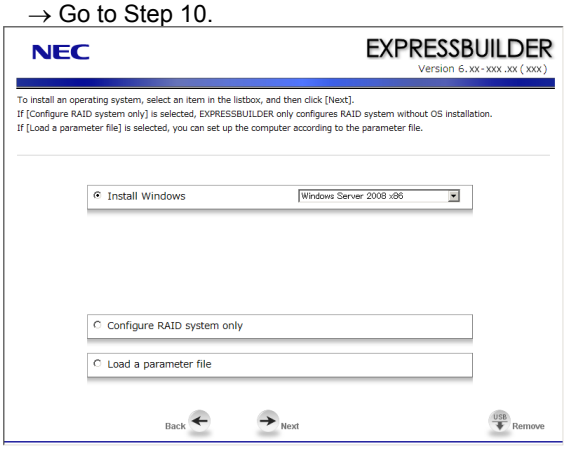
6. Select **Setup this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

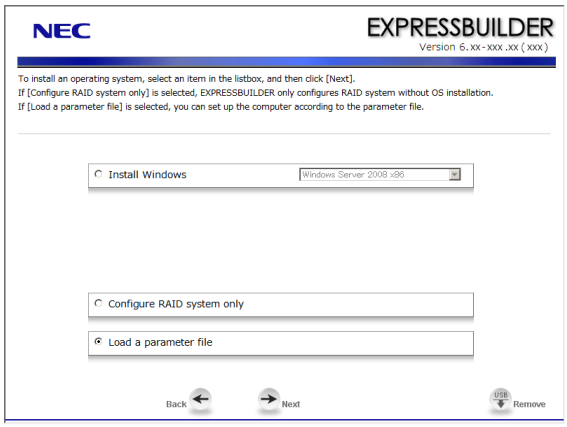
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

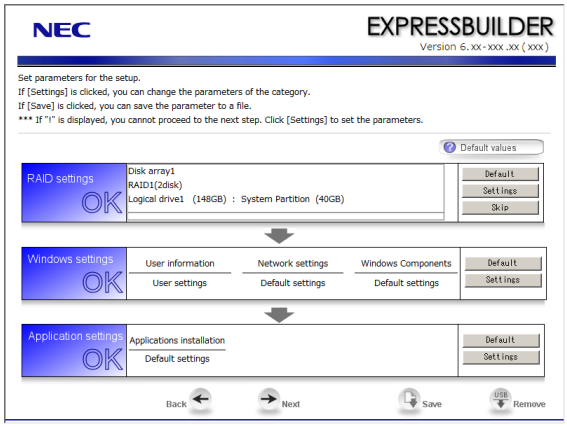
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next].
   On this dialog, select "Windows Server 2008 x86" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 x86
Configure RAID system only
Load a parameter file
Back
Next
Remove

9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to displayed instructions.

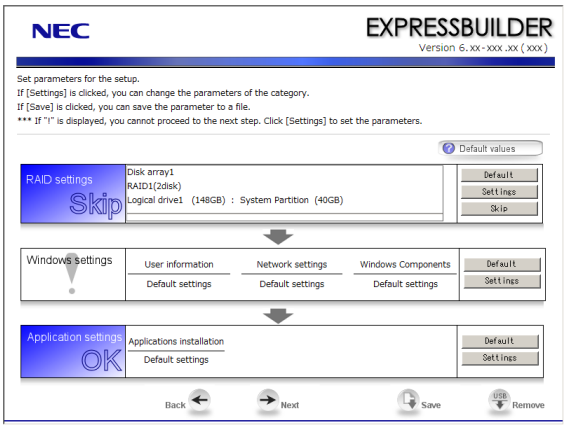

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 x86
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 13.



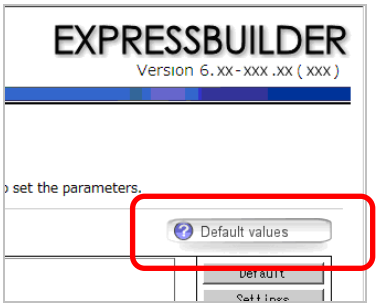
10. Set parameters required for setup.

Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

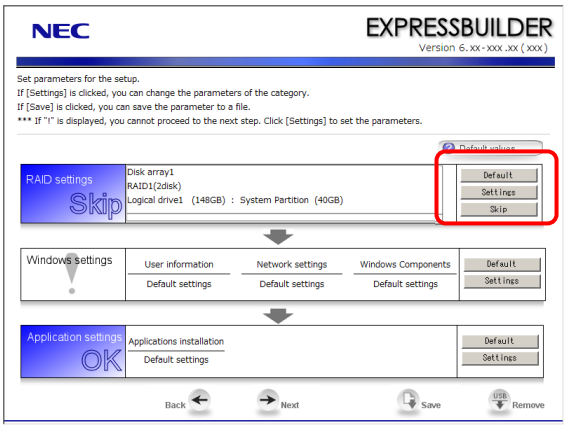
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1)Click [Settings] in RAID settings.

(2)Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

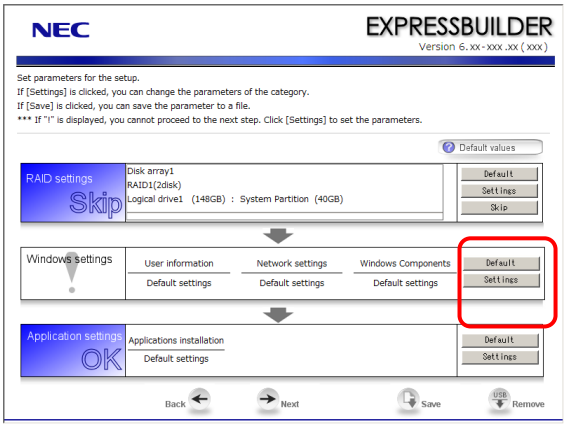
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

When the RAID settings wizard is terminated, Parameter Setup Menu appears again.

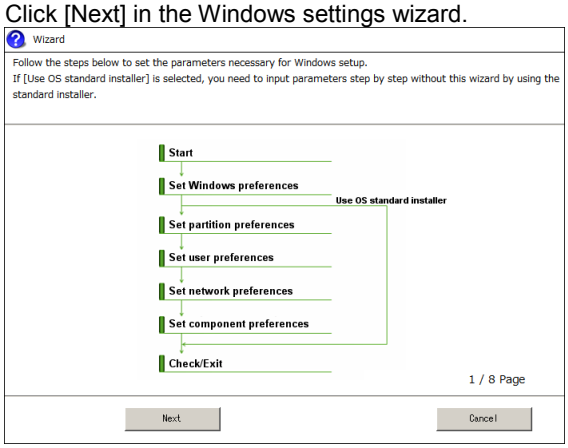
10-2 Windows settings

Set up Windows by using the Windows settings wizard on Parameter Setup Menu.

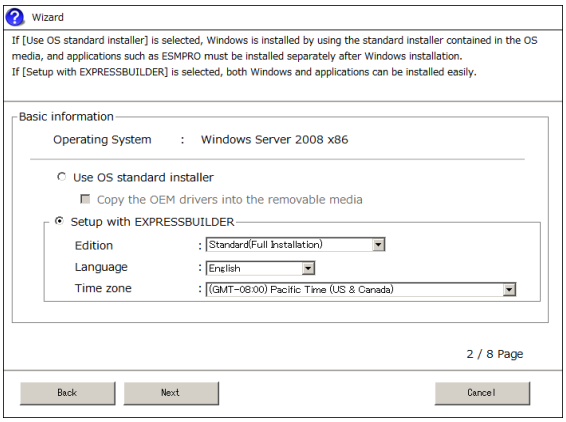


(1) Click [Settings] in **Windows settings**.

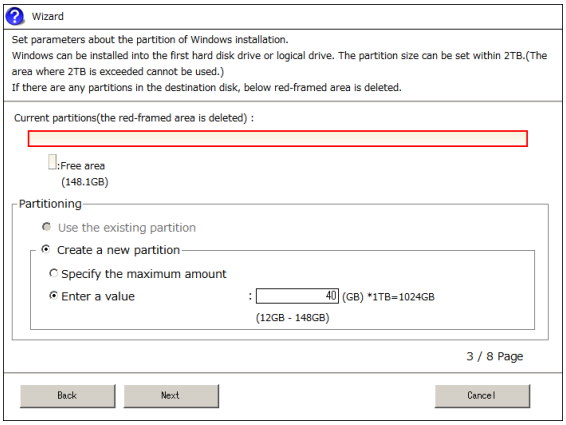
(2) Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

(3) Specify the Windows basic settings.
Change settings for "Edition" and "Time Zone" as needed, and click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2008 x86
Use OS standard installer
Copy the OEM drivers into the removable media
Setup with EXPRESSBUILDER
Edition : Standard(Full Installation)
Language : English
Time zone : (GMT-08:00) Pacific Time (US & Canada)
2 / 8 Page
Back
Next
Cancel

(4) Set up the partitions.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].


Wizard
Set parameters about the partition of Windows installation.
Windows can be installed into the first hard disk drive or logical drive. The partition size can be set within 2TB.(The area where 2TB is exceeded cannot be used.)
If there are any partitions in the destination disk, below red-framed area is deleted.
Current partitions(the red-framed area is deleted) :
:Free area
(148.1GB)
Partitioning
Use the existing partition
Create a new partition
Specify the maximum amount
Enter a value : 40 (GB) *1TB=1024GB
(12GB - 148GB)
3 / 8 Page
Back
Next
Cancel

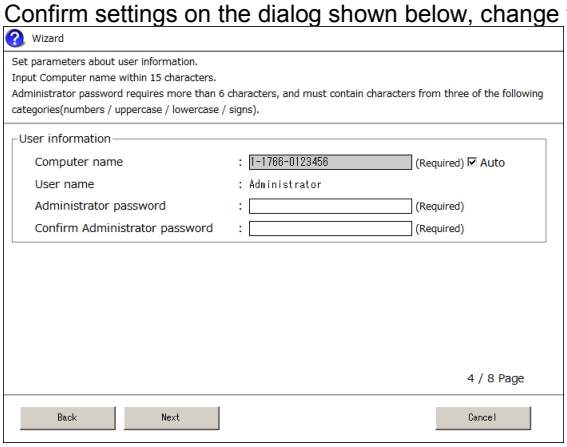
Important

- **Partition size**
  - **Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (4.1 Before Starting Setup)*.)**
  - **The maximum partition size is 2,097,152 MB.**
- **If you select *Create a new partition* under *Partitioning*, the entire contents of the hard disk drive will be deleted.**
- **If you select *Use the existing partition* under *Partitioning*, data in the first partition is formatted and deleted. Data in other partitions will be kept. The figure below shows in which partitions data will be deleted.**

First partition	Second partition	Third partition
Deleted	Retained	Retained

- **You cannot reinstall to an existing partition that has been upgraded to a Dynamic Disk (refer to *Chapter 1 (4.1 Before Starting Setup)*). Do not select *Use the existing partition* under *Partitioning*.**

(5) Enter user information.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].


Wizard
Set parameters about user information.
Input Computer name within 15 characters.
Administrator password requires more than 6 characters, and must contain characters from three of the following categories(numbers / uppercase / lowercase / signs).
User information
Computer name : 1-1766-0123456 (Required) Auto
User name : Administrator
Administrator password : (Required)
Confirm Administrator password : (Required)
4 / 8 Page
Back
Next
Cancel

Note

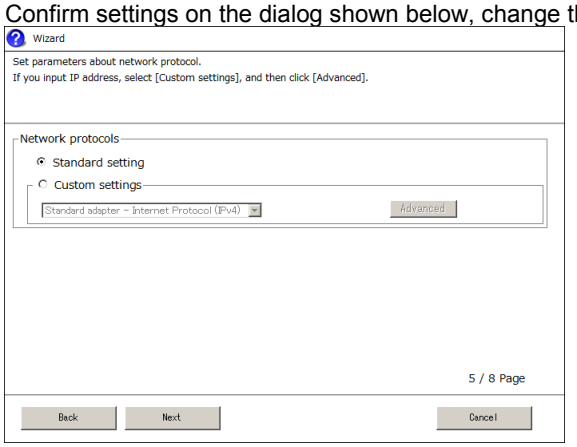
For Windows Server 2008, you must enter a computer name and administrator password that satisfies the following conditions:

- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

Tips

- The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
- If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Confirm Administrator password text boxes even if no value has been entered.

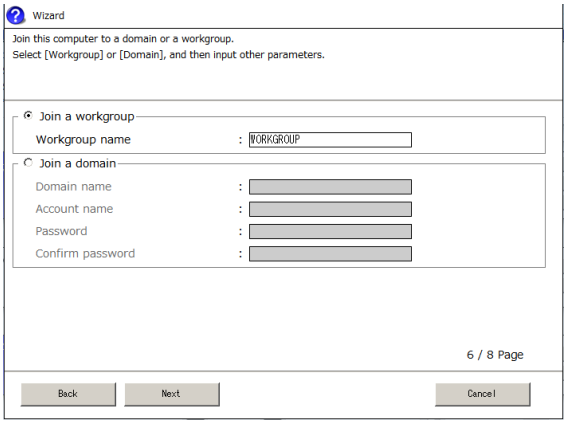
(6) Set up the network.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].



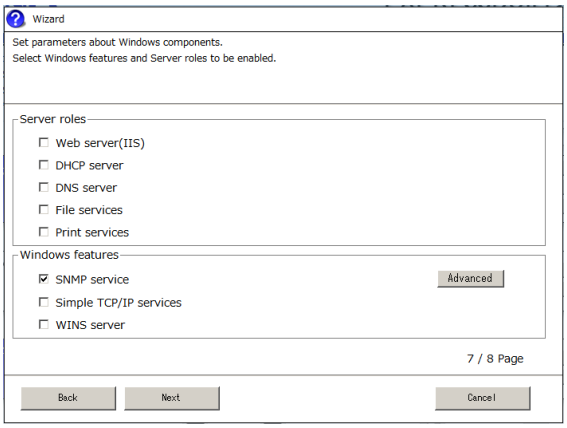
Tips

The order of entry in **Custom settings** may differ from the numbering of LAN ports.

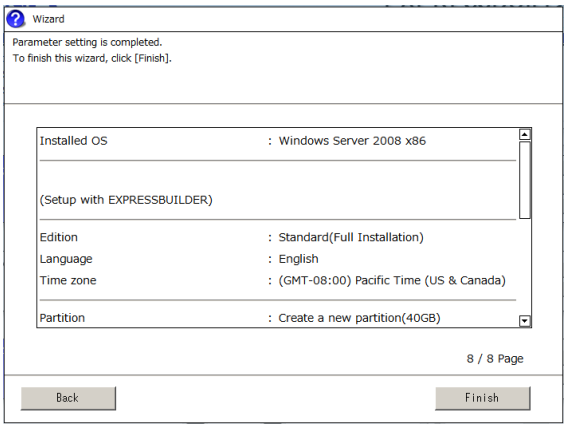
(7) Enter the domain or workgroup name to be used.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].



(8) Select the Windows components for installation.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].



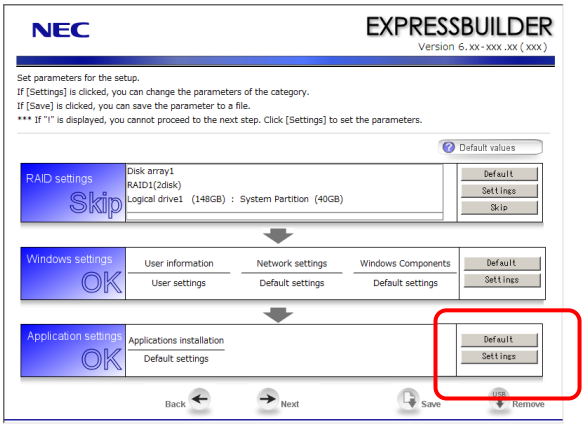
(9) Confirm settings.
Confirm settings on the dialog shown below, and click [Finish].


Wizard
Parameter setting is completed.
To finish this wizard, click [Finish].
Installed OS : Windows Server 2008 x86
(Setup with EXPRESSBUILDER)
Edition : Standard(Full Installation)
Language : English
Time zone : (GMT-08:00) Pacific Time (US & Canada)
Partition : Create a new partition(40GB)
8 / 8 Page
Back
Finish

When the Windows settings wizard is terminated, Parameter Setup Menu appears again.

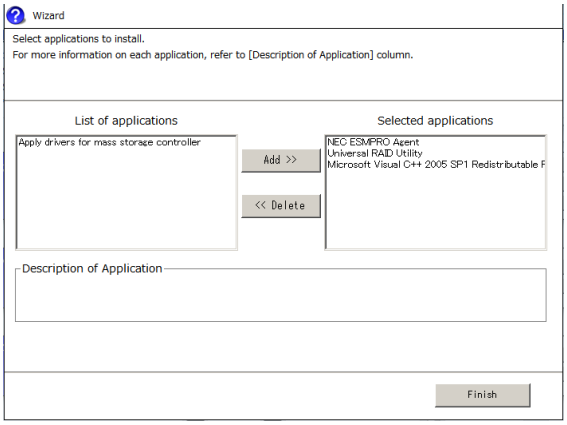
10-3 Application settings

Set up applications using the Application settings wizard in Parameter Setup Menu.



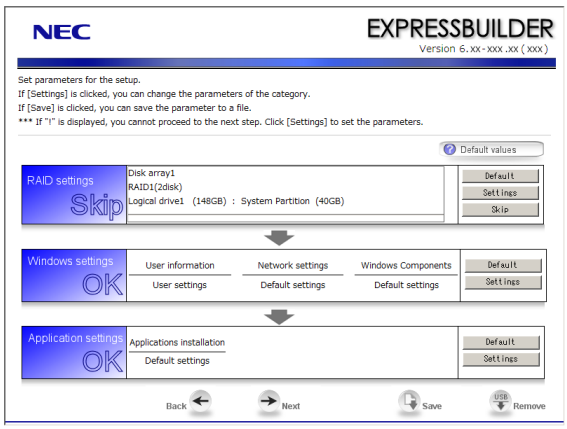
(1) Click [Settings] in **Application settings**.

(2) Confirm settings on the dialog shown below, change them as needed, and click [Finish].

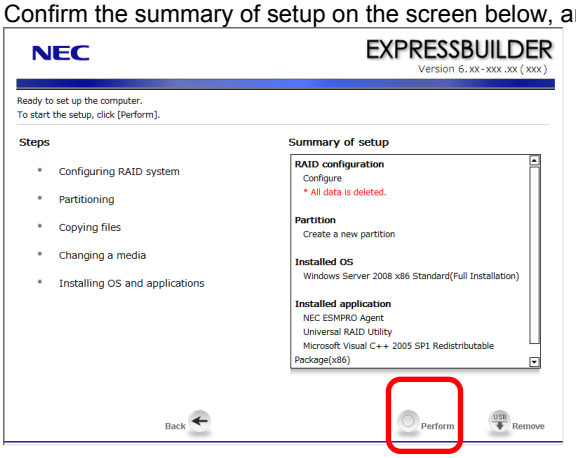


11. Save parameters on Parameter Setup Menu.
    Click [Save], and save the parameter file according to displayed instructions.
    If you do not need to save parameters, go to Step 12.

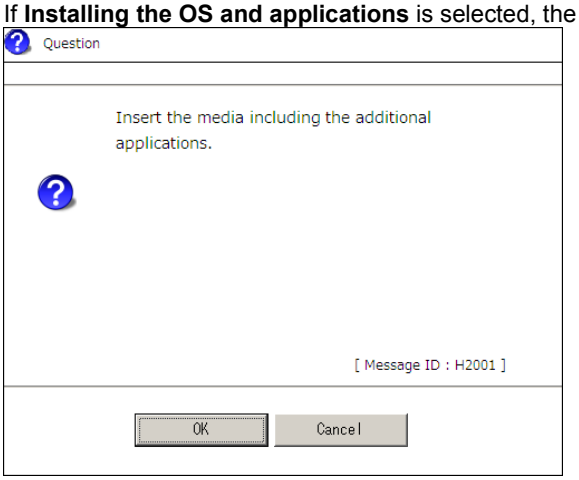
12. Click [Next] on Parameter Setup Menu.



13. Confirm the summary of setup on the screen below, and click [Perform].

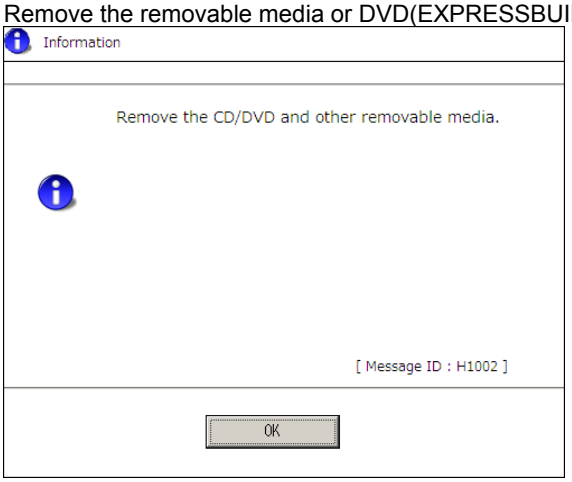


14. Install the additional applications.
If **Installing the OS and applications** is selected, the following message will appear.

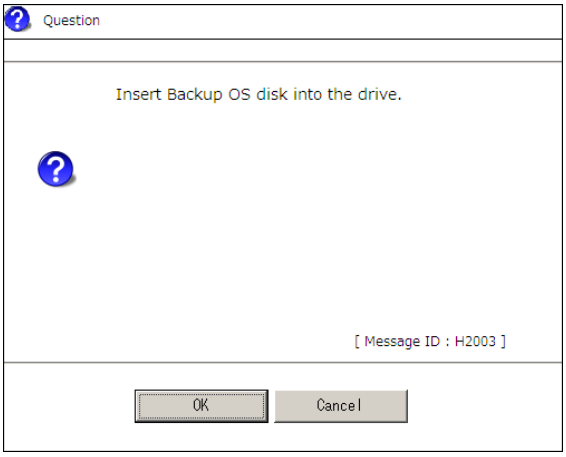


Insert the CD-ROM or removable media that contains the necessary applications, and install them according to displayed messages.

15. Remove the removable media or DVD(EXPRESSBUILDER) from the server.

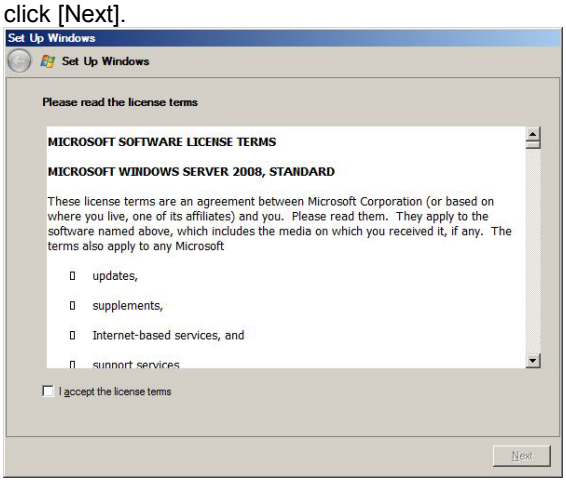


16. Insert the Windows Server 2008 DVD-ROM into the optical disk drive, and then click [OK].

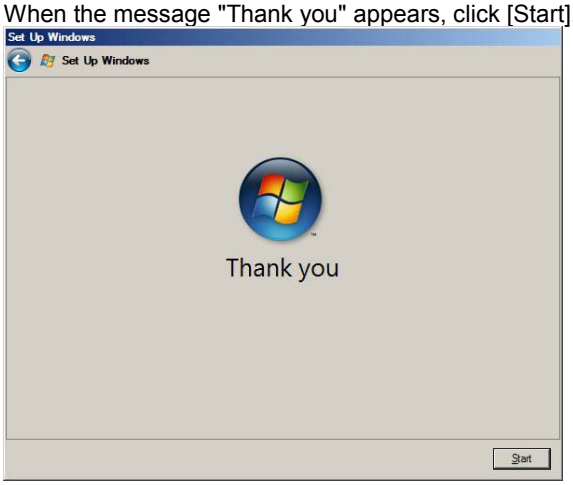


Windows Server 2008 and selected applications will be installed automatically and restart several times.

17. When the software license agreement window appears, select **I accept the license terms**, and then click [Next].


Set Up Windows
Set Up Windows
Please read the license terms
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT WINDOWS SERVER 2008, STANDARD
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
updates,
supplements,
Internet-based services, and
support services
I accept the license terms
Next

18. When the message "Thank you" appears, click [Start].



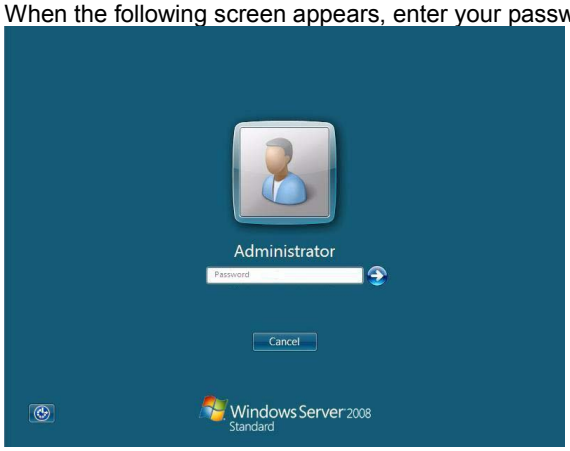
Tips It may take several minutes until the logon window appears. Wait until it appears, even though nothing changes on the screen.

19. When the following message appears, press <Ctrl> + <Alt> + <Del> keys.

20. Follow displayed instructions to log on to the system.

Full installations:

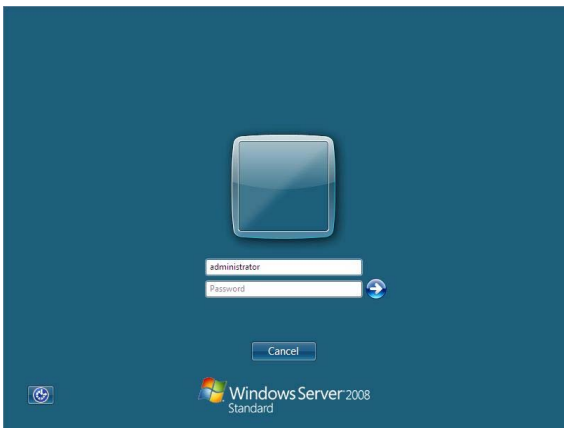
When the following screen appears, enter your password into the text box, and then click .



Server Core installations:

When the following screen appears, click **Other User**.

When the following screen appears, enter `administrator` into **User** text box and the specified password into **Password** text box, and then click .



21. Click [OK] in the Setup Complete window.
22. Follow the instructions described in *Chapter 1 (4.5 Setting Up Device Drivers)* to set up the device drivers supplied with this server as standard.
23. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
24. Apply Service Pack as needed according to *Chapter 1 (4.9 Applying Service Pack)*.
25. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems)*.

Setup with EXPRESSBUILDER is now complete.

4.3 Setup with OS Standard Installer

This section describes how to install Windows with OS Standard Installer.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide*".

Important

Setup with OS standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:

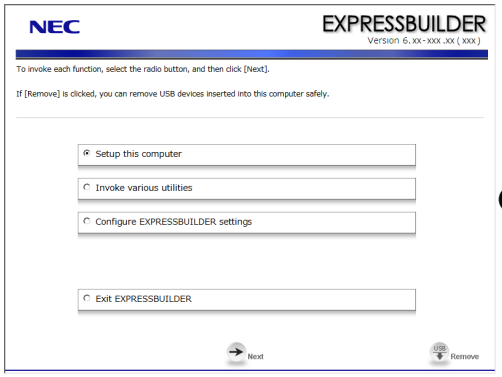
– RAID settings wizard

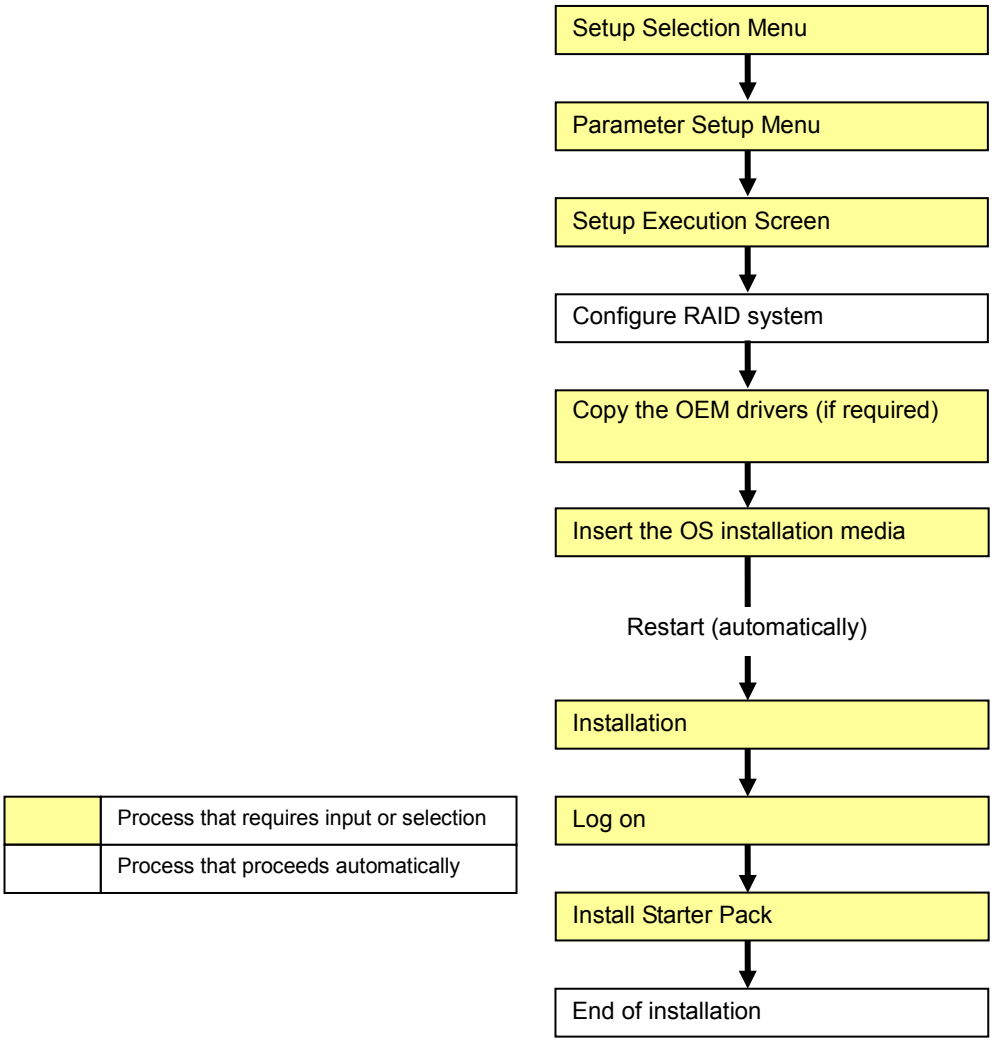
Backing up user data, as needed, is recommended.

Tips

- Setup with OS Standard Installer allows you to use a pre-specified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *8 Windows OS Parameter File*.

4.3.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



4.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **NEC operating system installation media** (hereafter referred to as *Backup DVD-ROM*)
  - **Microsoft operating system installation media** (hereafter referred to as *Windows Server 2008 DVD-ROM*)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory**

    (If "Internal Flash Memory " is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Service Pack**

    (If the OS installation media contains Service Pack 1, you need not apply the service pack again.)

Tips

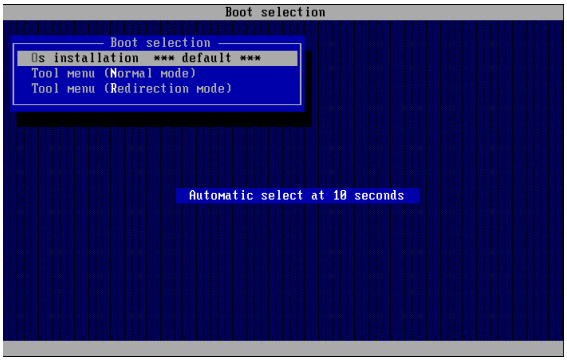
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

4.3.3 Setup procedure

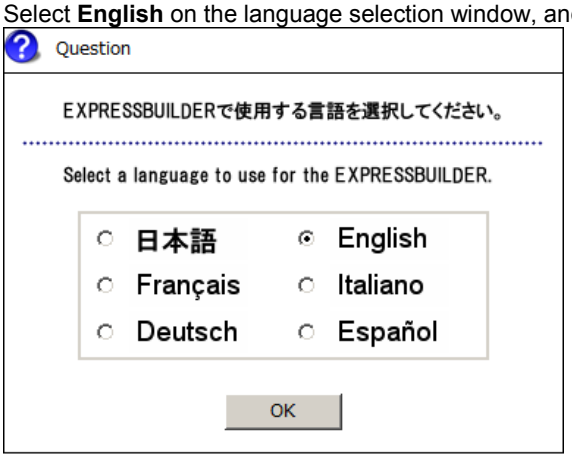
This section describes the procedure for installing Windows Server 2008 with OS standard installer.

Note Before starting setup, refer to *Chapter 1 (4.1 Before Starting Setup)*. It describes how to make partitions.

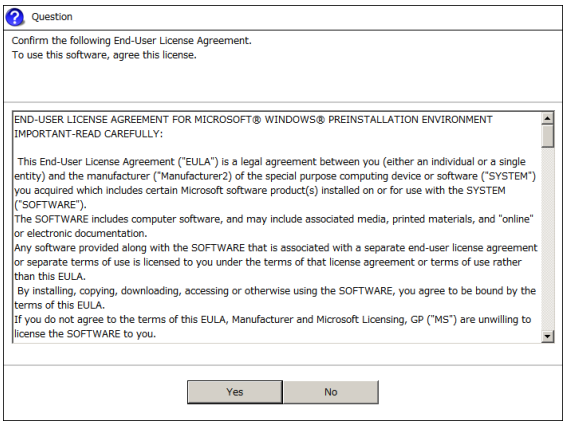
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to step 4, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

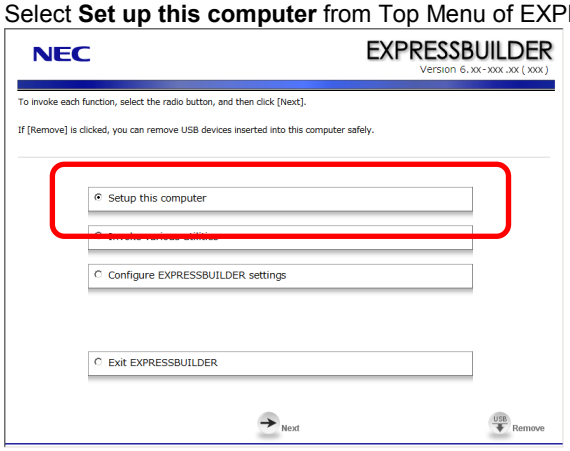


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

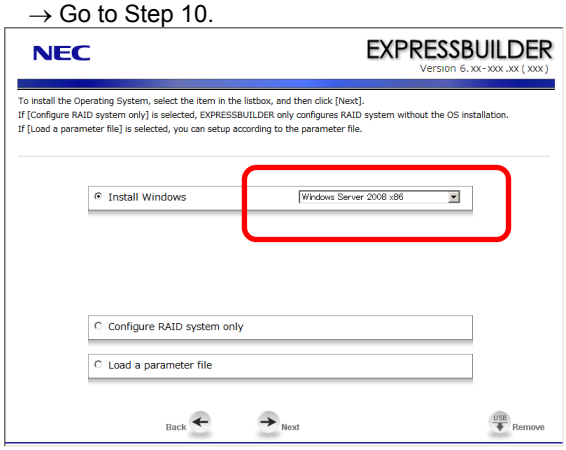
6. Select **Set up this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

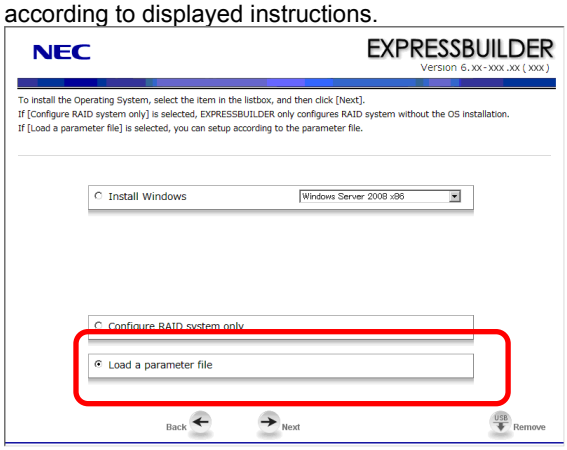
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, an already saved parameter file can be read, so that you can skip inputting parameters in the wizard.

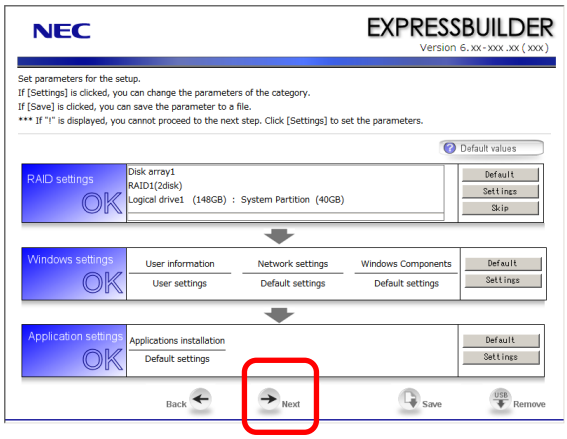
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next].
   On this dialog, select "Windows Server 2008 x86" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install the Operating System, select the item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without the OS installation.
If [Load a parameter file] is selected, you can setup according to the parameter file.
Install Windows
Windows Server 2008 x86
Configure RAID system only
Load a parameter file
Back
Next
Remove

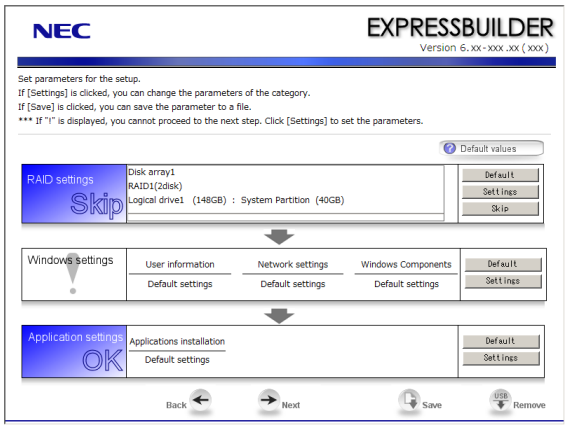
9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to displayed instructions.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install the Operating System, select the item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without the OS installation.
If [Load a parameter file] is selected, you can setup according to the parameter file.
Install Windows
Windows Server 2008 x86
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 16.

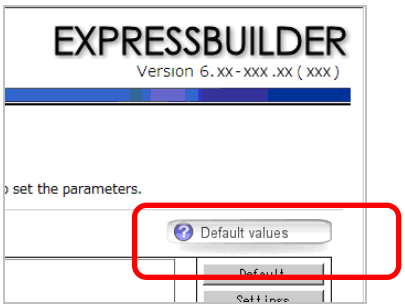


10. Set parameters required for setup.
Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

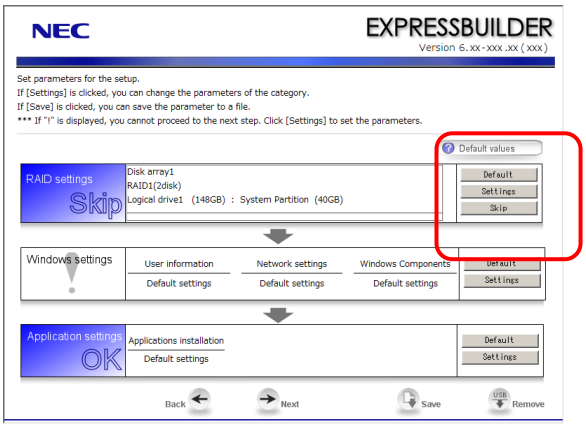
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1) Click [Settings] in RAID settings.

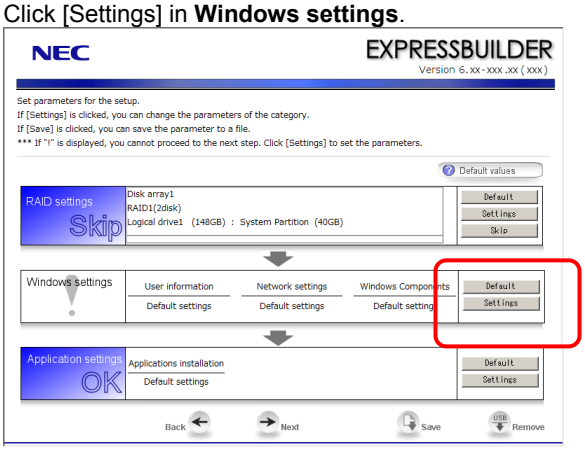
(2) Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

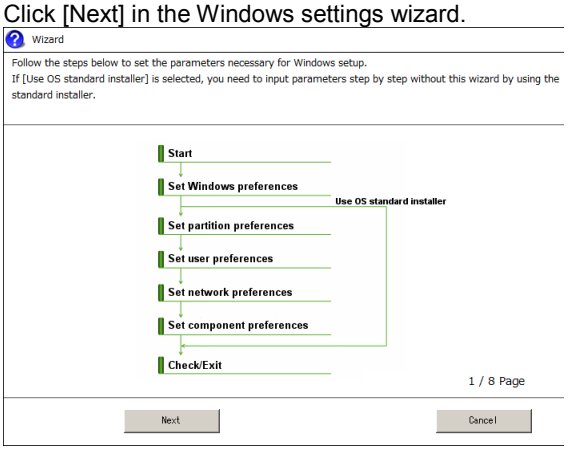
When skipping the creation of a new logical drives

Click [Skip] in RAID settings.

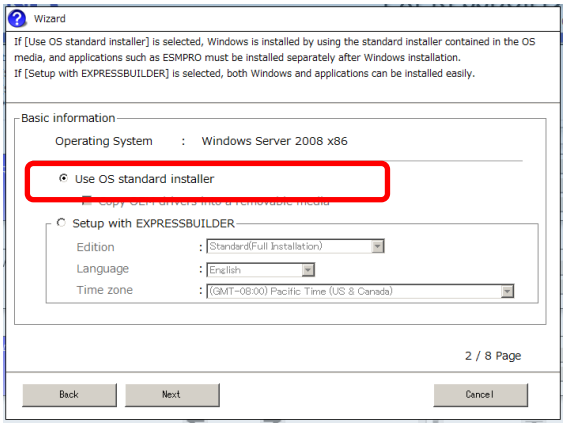
11. Click [Settings] in **Windows settings**.



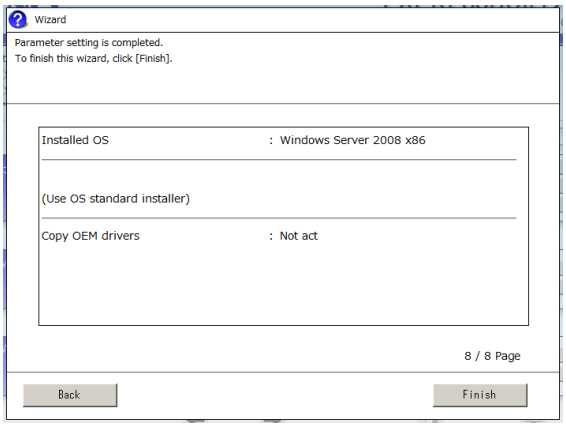
12. Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

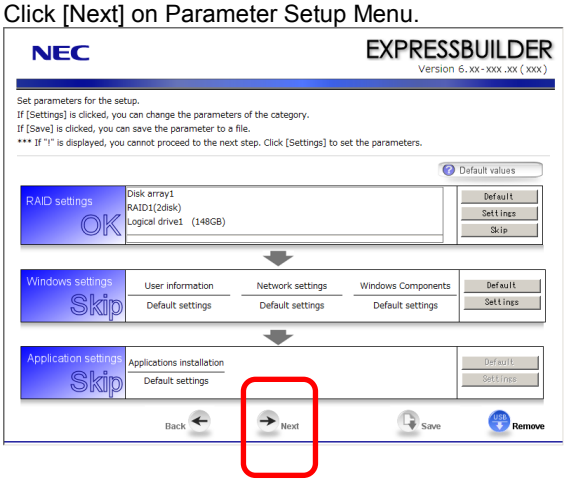
13. Specify the Windows basic settings.
The basic information window appears. Select **Use OS standard installer**, and then click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2008 x86
Use OS standard installer
Setup with EXPRESSBUILDER
Edition : Standard(Full Installation)
Language : English
Time zone : (GMT-08:00) Pacific Time (US & Canada)
2 / 8 Page
Back
Next
Cancel

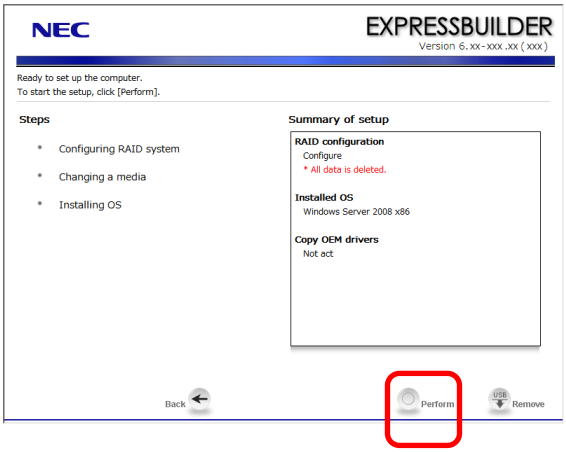
14. Confirm settings on the confirmation window, and click [Finish].



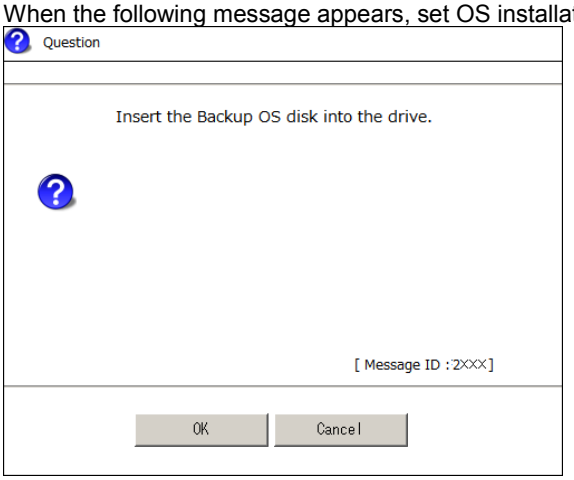
15. Click [Next] on Parameter Setup Menu.



16. Confirm the summary of setup on the screen below, and click [Perform].



17. Continue setup according to displayed message.
When the following message appears, set OS installation media and click [OK].



18. The server reboots automatically.
If you use Internal Flash Memory, press <F3> key when the following message appears during POST.

```
Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network
```

Note Since the OS installation media is set in the optical disk drive in Step 17, boot the system from the optical disk drive having higher boot priority, not from Internal Flash Memory.

19. Run from the OS installation media.
If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message "Press any key to boot from CD or DVD…" is displayed on the top of the screen.

When the boot sequence proceeds, the message "Windows is loading files…" appears.

Note If “Windows is loading files...” message does not appear, <Enter> key was not pressed correctly. Reboot and retry again.

This step is unnecessary if no bootable operating system exists.

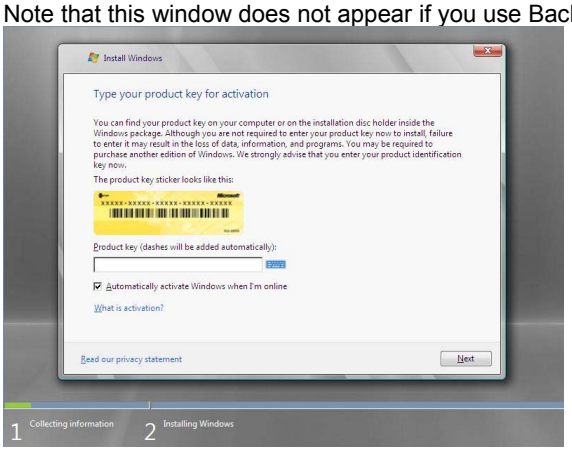
20. When the following window appears, select a language, enter information for the other items, and then click [Next].

Install Windows
Windows Server 2008
Language to install: English
Time and currency format: English (United States)
Keyboard or input method: US
Enter your language and other preferences and click "Next" to continue.
Copyright © 2007 Microsoft Corporation. All rights reserved.
Next

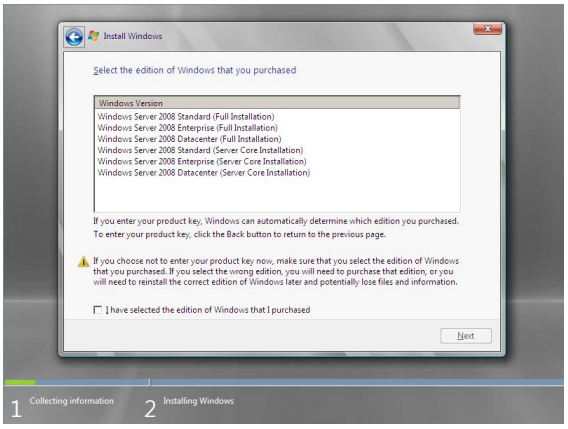
21. When the following message appears, click [Install Now].
Windows Server 2008 installation starts.

Install Windows
Windows Server 2008
Install now
What to know before installing Windows
Repair your computer
Copyright © 2007 Microsoft Corporation. All rights reserved.

22. When the following window appears, enter the product key and then click [Next].
Note that this window does not appear if you use Backup DVD-ROM for installation.

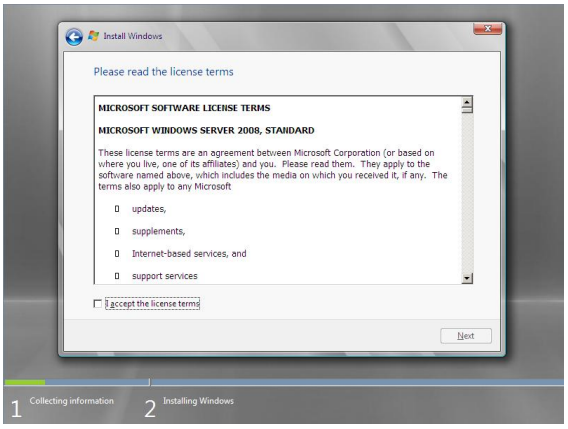

Install Windows
Type your product key for activation
You can find your product key on your computer or on the installation disc holder inside the Windows package. Although you are not required to enter your product key now to install, failure to enter it may result in the loss of data, information, and programs. You may be required to purchase another edition of Windows. We strongly advise that you enter your product identification key now.
The product key sticker looks like this:
Product key (dashes will be added automatically):
Automatically activate Windows when I'm online
What is activation?
Read our privacy statement
Next
1 Collecting information
2 Installing Windows

23. When the following window appears, select the Windows edition you have purchased.
Select **I have selected the edition of Windows that I purchased** check box, and then click [Next].
If the product key was entered, only the corresponding editions are displayed.

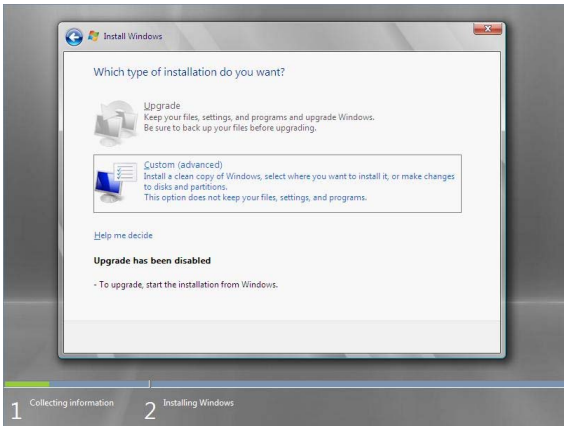

Install Windows
Select the edition of Windows that you purchased
Windows Version
Windows Server 2008 Standard (Full Installation)
Windows Server 2008 Enterprise (Full Installation)
Windows Server 2008 Datacenter (Full Installation)
Windows Server 2008 Standard (Server Core Installation)
Windows Server 2008 Enterprise (Server Core Installation)
Windows Server 2008 Datacenter (Server Core Installation)
If you enter your product key, Windows can automatically determine which edition you purchased.
To enter your product key, click the Back button to return to the previous page.
If you choose not to enter your product key now, make sure that you select the edition of Windows that you purchased. If you select the wrong edition, you will need to purchase that edition, or you will need to reinstall the correct edition of Windows later and potentially lose files and information.
I have selected the edition of Windows that I purchased
Next
1 Collecting information
2 Installing Windows

Tips The Windows versions that appear on the screen differ depending on the OS installation media used.

24. When the following window appears, confirm the content of the license agreement.
If you agree, select **I accept the license terms** and then click [Next].


Install Windows
Please read the license terms
MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT WINDOWS SERVER 2008, STANDARD
These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
updates,
supplements,
Internet-based services, and
support services
I accept the license terms
Next
1 Collecting information
2 Installing Windows

25. When the following message appears, select the installation type.
Select **Custom (advanced)** in this case.


Install Windows
Which type of installation do you want?
Upgrade
Keep your files, settings, and programs and upgrade Windows.
Be sure to back up your files before upgrading.
Custom (advanced)
Install a clean copy of Windows, select where you want to install it, or make changes to disks and partitions.
This option does not keep your files, settings, and programs.
Help me decide
Upgrade has been disabled
- To upgrade, start the installation from Windows.
1 Collecting information
2 Installing Windows

26. The "Where do you want to install Windows?" window appears.

Note Go to Step 30 if RAID Controller is not used.

Click **Load Driver**.

If the following message appears, replace the OS installation media and EXPRESSBUILDER DVD in the optical disk drive, and then click [Browse]. Next, go to step 27.

```
Load Driver
To install the driver needed to access your hard drive, insert
the installation media containing the driver files, and then click
OK.

Note: The installation media can be a floppy disk, CD, DVD, or
USB flash drive.

[Browse] [OK] [Cancel]
```

Tips

- If using Internal Flash Memory, you do not need to remove the OS installation media.
- At this time, a message "The Installation media can be a floppy disk, CD, DVD, or USB flash drive." appears on the screen, you must use the supplied EXPRESSBUILDER DVD or Internal Flash Memory.

27. Specify one of the following locations, and then click [OK].
When using EXPRESSBUILDER, select the optical disk drive. When using Internal Flash Memory, select the volume of INTER-FLASH.

N8103-149/150/151 RAID Controller :

– Windows Server 2008 64-bit Edition
`\021\win\winnt\oemfd\ws2008x64\megasas2`

– Windows Server 2008 32-bit Edition
`\021\win\winnt\oemfd\ws2008\megasas2`

28. Select the necessary driver from the driver list shown, and then click [Next].

When using the N8103-149/150/151 RAID Controller

[LSI MegaRAID SAS 9267-8i]

29. If you used EXPRESSBUILDER DVD, remove it and then insert the OS installation media.

30. Select the disk in which the partition will be created, and then click **Drive options (advanced)**

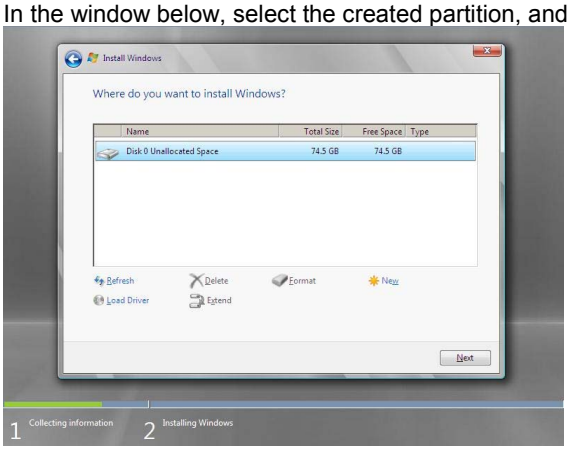
Important **If a partition has already been created, go to step 33.**

31. Click [New], enter the partition size into the size input box, and then click [Apply].

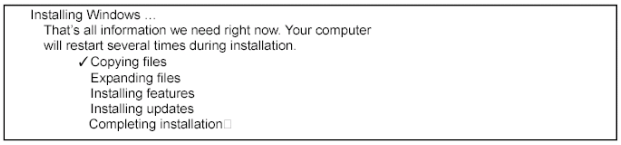
Note When installing the OS to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.

32. Select the partition created in step 31, and then click [Format].

33. In the window below, select the created partition, and then click [Next].



When the following message appears, Windows installation starts automatically.


Installing Windows ...
That's all information we need right now. Your computer will restart several times during installation.
✓Copying files
Expanding files
Installing features
Installing updates
Completing installation

Tips At this time, if EXPRESSBUILDER DVD is still in the optical disk drive, a message prompting you to replace it with an OS installation media appears. Remove EXPRESSBUILDER DVD and then insert the OS installation media.

34. The content displayed differs depending on what you selected in step 23. Confirm the following, and then proceed.

Full installations:

(1) After setup of Windows Server 2008 is completed, the following window appears, prompting you to change your password before logging on. Click [OK].

(2) Change your password, and then click the [ ] button.

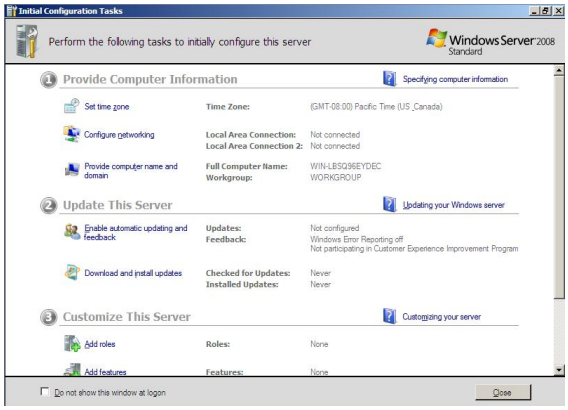
Tips

Passwords must fulfill the following requirements in Windows Server 2008.

- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

(3) When the following message appears, click [OK].

(4) When the Initial Configuration Tasks window appears after you log on, enter the user information.

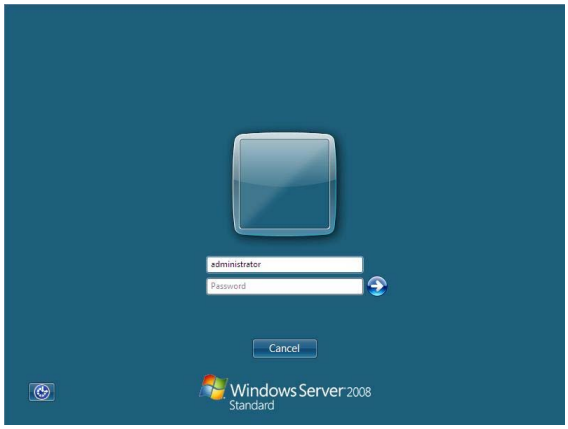


Server Core installations:

(1) If the following message appears after Windows Server 2008 setup has completed, press <Ctrl> + <Alt> + <Del> keys.

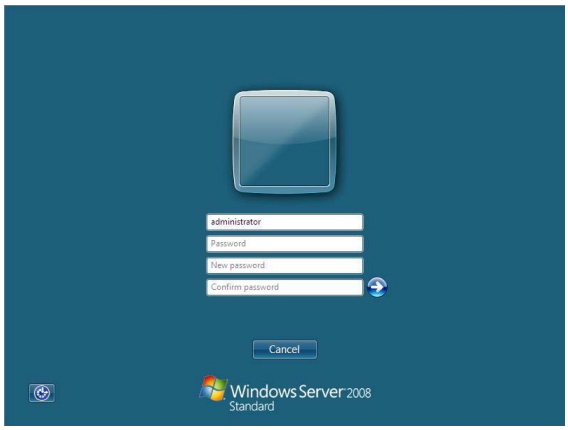
(2) When the following message appears, click **Other User**.

(3) When the following window appears, enter `administrator` into the **User** text box and then click . Password entry is not required at this time.



(4) The following window appears, prompting you to change your password before logging on. Click [OK].

(5) Change your password, and then click [ ].



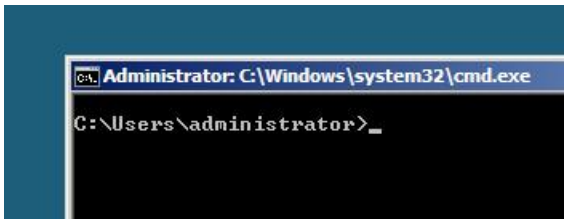
Tips

Passwords must fulfill the following requirements in Windows Server 2008.

- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

(6) When the following message appears, click [OK].

(7) The command prompt will appear. Set the user information.



Tips

For detailed setup procedures, refer to the Microsoft "*Step by Step Guide*".

35. Install Starter Pack by referring to *Chapter 1 (4.4 Installing Starter Pack)*.
36. Install drivers and specify detailed settings by referring to *Chapter 1 (4.5 Setting Up Device Drivers)*.
37. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
38. Apply Service Pack as needed according to *Chapter 1 (4.9 Applying Service Pack*).
39. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems).*

Setup with OS standard installer is now complete.

4.4 Installing Starter Pack

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

Important

Also install Starter Pack in the following cases.

- **The system configurations have changed (when internal option devices have been added or removed)**
  If a dialog box prompting you to restart appears after changing system configurations, click [No] and then install Starter Pack.
- **If the system was restored using a restore process**
- **If a system has been restored using the backup tool**

Note

The Scalable Networking Pack (SNP) function is disabled upon Starter Pack installation is complete.
The setting of SNP function may affect the system performance.
Contact your sales representative for details.

Tips

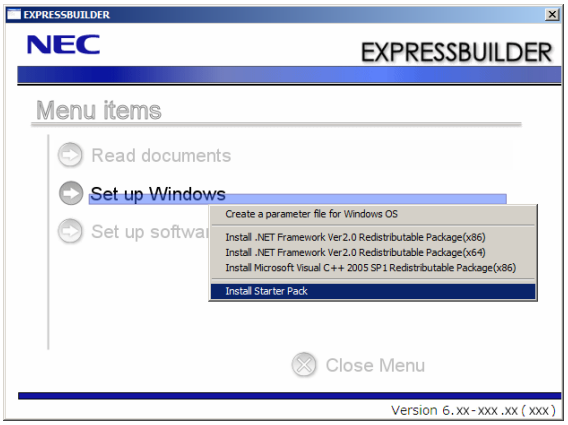
If the OS is installed by using EXPRESSBUILDER, Starter Pack is already applied.
If the configuration is not changed, you do not need to apply Starter Pack again.

4.4.1 When using EXPRESSBUILDER DVD

1. Log on to the system with the built-in administrator, which has administrative privileges.
2. Insert EXPRESSBUILDER DVD into the optical disk drive.
3. Proceed application step according to the installation type.

For Full installations

When Autorun Menu appears, click **Set up Windows** to open the short-cut menu and then select **Install Starter Pack**.



Server Core installations

(1) Enter the following command at the command prompt, and then specify the optical disk drive letter (for example, D drive).

```
cd /d D:\021\win\winnt\bin
```

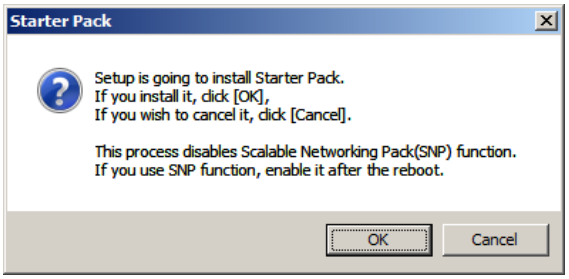
```
C:\Users\administrator>cd /d D:\021\win\winnt\bin
```

(2) Enter the following, and then press <Enter> key.

```
pkgsetup.vbs
```

```
D:\021\win\winnt\bin>pkgsetup.vbs
```

4. The setup message appears.

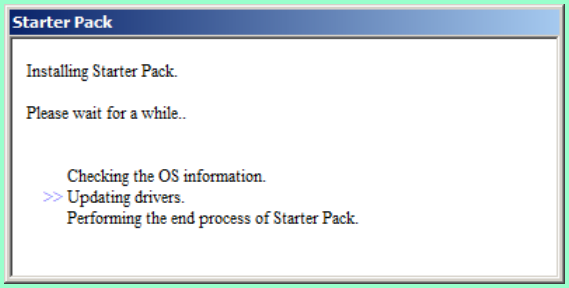

Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
This process disables Scalable Networking Pack(SNP) function.
If you use SNP function, enable it after the reboot.
OK
Cancel

Tips Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

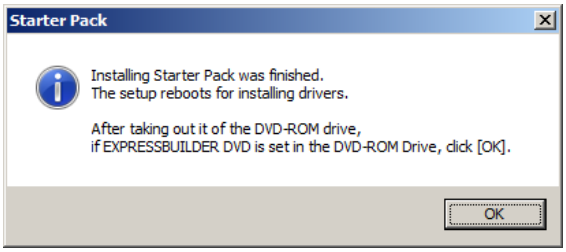
Read the message that appears, and then click [OK].

Starter Pack installation starts.

Note If you chose Full installation, the following progress message will appear while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

5. When the following message appears, Starter Pack installation is complete. Follow the instructions in the message, and remove EXPRESSBUILDER DVD.


Starter Pack
Installing Starter Pack was finished.
The setup reboots for installing drivers.
After taking out it of the DVD-ROM drive,
if EXPRESSBUILDER DVD is set in the DVD-ROM Drive, click [OK].
OK

6. Click [OK] and then restart the system.

Installation of Starter Pack is now complete.

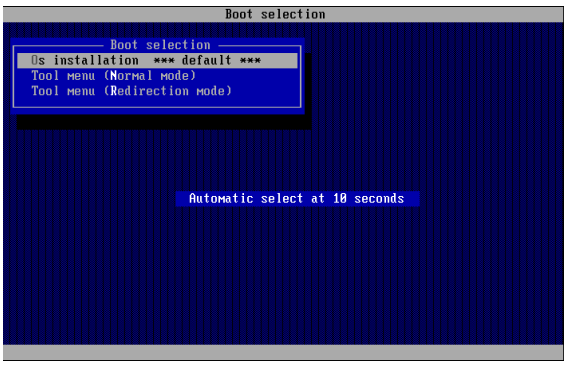
4.4.2 When using Internal Flash Memory

(Optional "Internal Flash Memory " is required)

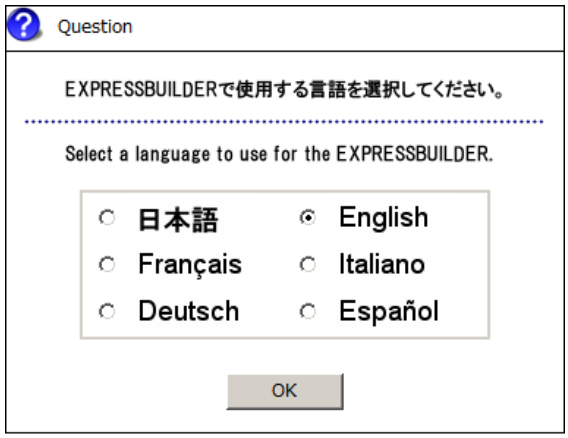
1. After installing the operating system, the system will restart.
2. Use Internal Flash Memory to run EXPRESSBUILDER.
   When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.

Note At this time, be sure to remove the DVD from the optical disk drive.

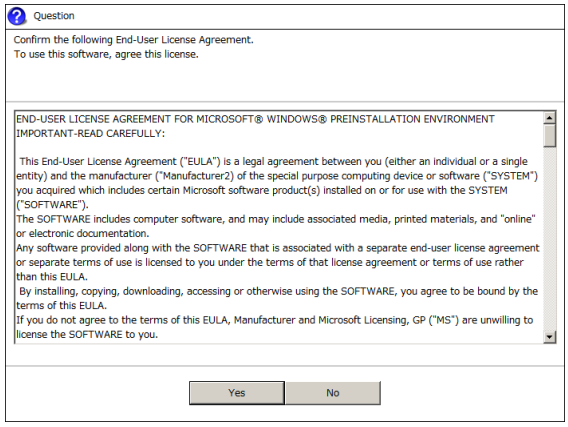
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to the next window, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

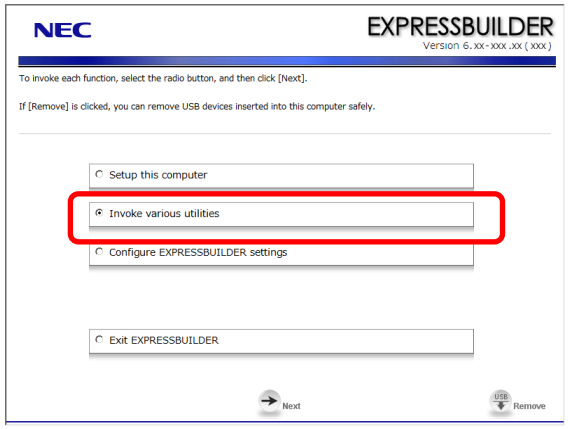


5. When the Windows PE software license agreement window appears, click [Yes].

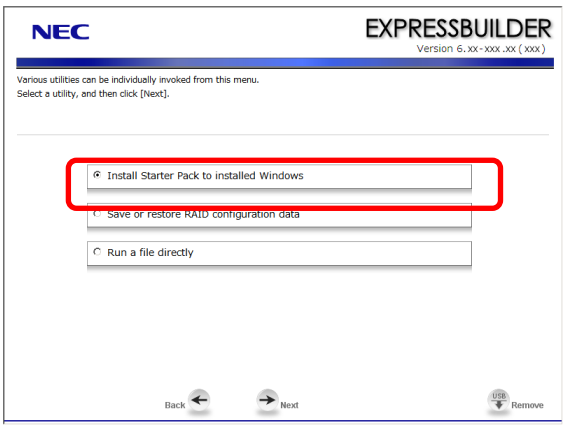

Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

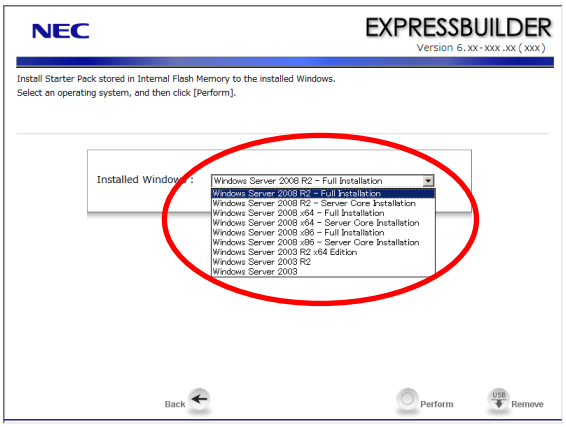
6. Select **Invoke various utilities** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

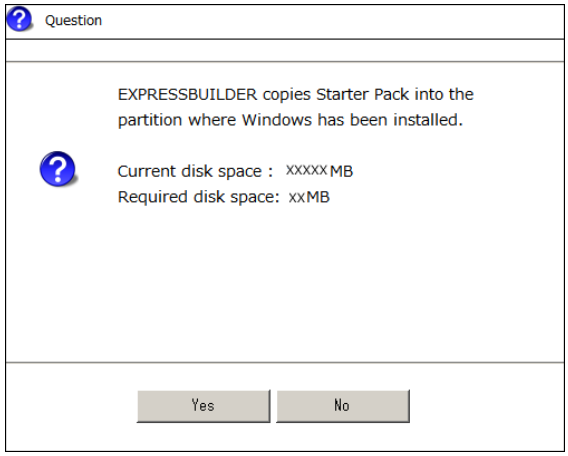
7. Select **Install Starter Pack to installed Windows** and then click [Next].



8. Select the installed Windows from the drop-down list, and then click [Perform].

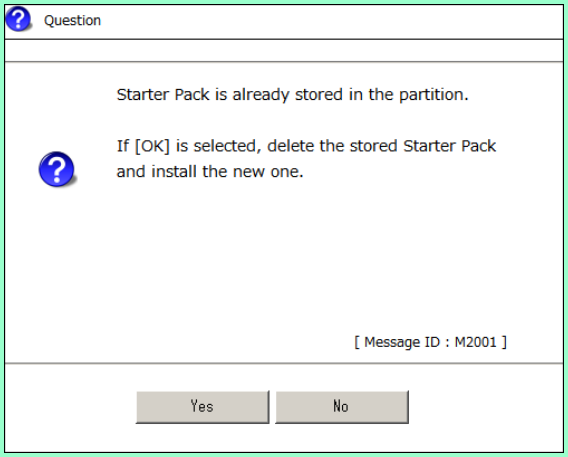

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
Install Starter Pack stored in Internal Flash Memory to the installed Windows.
Select an operating system, and then click [Perform].
Installed Windows :
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Server Core Installation
Windows Server 2008 x64 - Full Installation
Windows Server 2008 x64 - Server Core Installation
Windows Server 2008 x86 - Full Installation
Windows Server 2008 x86 - Server Core Installation
Windows Server 2003 R2 x64 Edition
Windows Server 2003 R2
Windows Server 2003
Back
Perform
Remove

9. When the following confirmation window appears, read the content and then click [Yes].

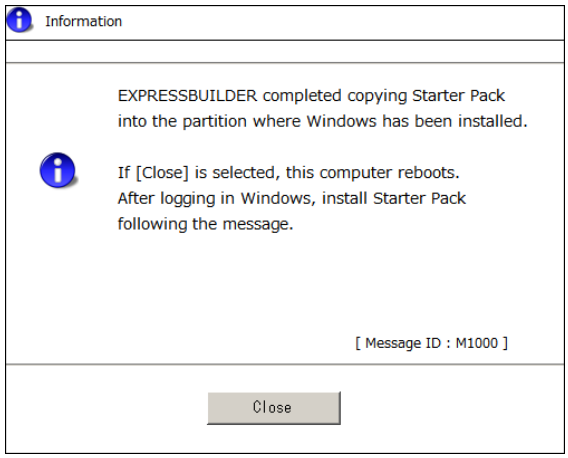

Question
EXPRESSBUILDER copies Starter Pack into the partition where Windows has been installed.
Current disk space : XXXXX MB
Required disk space: XX MB
Yes
No

Note

The following window will appear if Starter Pack is already installed.
Read the message, and then click [Yes].


Question
Starter Pack is already stored in the partition.
If [OK] is selected, delete the stored Starter Pack and install the new one.
[Message ID : M2001]
Yes
No

10. After copying the files, the following window appears. Click [Close].


Information
EXPRESSBUILDER completed copying Starter Pack into the partition where Windows has been installed.
If [Close] is selected, this computer reboots. After logging in Windows, install Starter Pack following the message.
[Message ID : M1000]
Close

The server then restarts.

Note

You do not need to press <F3> key at this time.

11. Proceed application step according to the installation type.

Full installations

After Windows starts, the following window appears. Click [OK].

Server Core installations

(1) Enter the following command at the command prompt, and then specify the drive letter of System Drive (usually C drive).

```
cd /d C:\StartPKG\bin
```

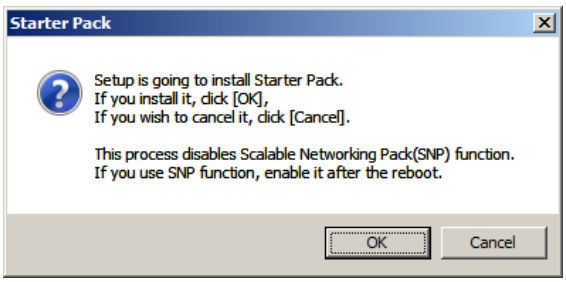
```
C:\Users\administrator>cd /d C:\StartPKG\bin
```

(2) Enter the following, and then press <Enter> key.

```
pkgsetup.vbs
```

```
C:\StartPKG\bin>pkgsetup.vbs
```

12. Read the message that appears, and then click [OK].

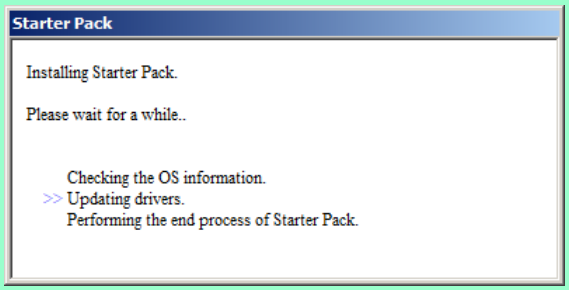

Starter Pack
Setup is going to install Starter Pack.
If you install it, dick [OK],
If you wish to cancel it, dick [Cancel].
This process disables Scalable Networking Pack(SNP) function.
If you use SNP function, enable it after the reboot.
OK
Cancel

Tips Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

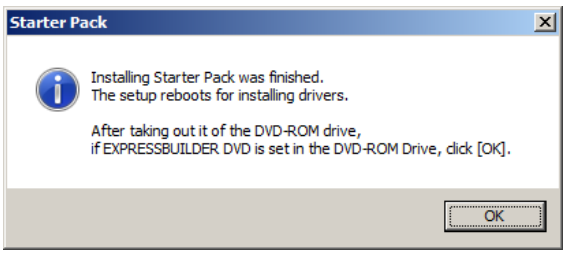
Installation of Starter Pack starts.

Note

If you chose Full installation, the following progress message appears while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup reboots for installing drivers.
After taking out it of the DVD-ROM drive,
if EXPRESSBUILDER DVD is set in the DVD-ROM Drive, click [OK].
OK

13. Click [OK] to restart the system.

Installation of Starter Pack is now complete.

4.5 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.

For details regarding the installation and setup of a driver that is not described here, refer to the manual supplied with the driver.

4.5.1 Installing the LAN and BACS (teaming) drivers

(1) LAN and BACS drivers

If EXPRESSBUILDER is used for setup, the LAN and BACS driver will automatically be installed.
If the OS standard installer is used for setup, install Starter Pack to install the LAN and BACS driver.

Important **WOL is supported by the standard network adapters only.**

Note

- To change the LAN or BACS driver settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.
- Be sure to select the **Internet Protocol (TCP/IP)** check box when specifying an IP address.

(2) Optional LAN board / Riser Card

This server supports the following optional LAN boards / Riser Card.

The drivers for LAN boards / Riser Card are automatically installed using the OS plug-and-play function.

Optional LAN boards: N8104-128/132/138

Optional Riser Card: N8104-135

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration
Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:
[N8104-128] Broadcom BCM57711 NetXtreme II 10 GigE (NDIS VBD Client) #xx*
[N8104-132/138] Broadcom NetXtreme Gigabit Ethernet #xx *

If connecting with an optional Riser Card:
[N8104-135] Broadcom NetXtreme Gigabit Ethernet #xx *

* If there are adapters with the same name, a different identification number will be assigned to *xx*.

Tips The ID for N8104-128 might be a number of two or more digits. This is due to the LAN driver specifications and not an error. This number cannot be changed.

4.5.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

1. Open the **Device Manager**.
2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
3. Select the **Advanced** tab, and then set the **Speed & Duplex** values to the same as those of the switching hub.
4. Click [OK] in the Network Adapter Properties dialog box.
5. Restart the system.

The link speed setting is now complete. Proceed to set up WOL.

(2) Setting the iSCSI Offload Engine (if using N8104-128)

If using N8104-128 with the server, iSCSI Offload Engine must be set to off.

Follow the procedure below to set it.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window. **Broadcom Advanced Control Suite3** starts.
2. Select **Device Management** under **Explorer View**, and then **N8104-128 network adapter** from **System device (VBD)**.
3. Select the **Configurations** tab, and then expand **Resource Reservations**.
4. Remove a checkmark from [iSCSI Offload Engine] under [Pre-Allocated Resource], if checked. Then, click [Apply].
5. Complete steps 2 to 4 for each N8104-128 network adapter.
6. Restart the system.

iSCSI Offload Engine setup is now complete.

Important **Pleas refer “N8104-128 LAN Driver Installation Guide” that is attached to the LAN boards to configure N8104-128.**

4.5.3 Setting up team/LiveLink

Note

- **You must set up LiveLink when setting up a team. Teams that are not configured for LiveLink are not supported.**
- **When deleting the team, refer to *Chapter 1 (4.5.3 Setting up team/LiveLink) - (4) Procedure for deleting team*. When replacing the motherboard or a LAN board, follow these steps to remove the team and create it again after replacement.**
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team

(1) Team types

The following team types are supported.

- Smart Load Balancing and Failover (without Standby Member)
  All adapters that compose the team perform communication.
  If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.
  When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.
- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)
  Among the adapters that compose the team, primary adapters except the standby member perform communication.
  If a communication failure occurs, the standby member continues the communication.
  When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters.
It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.
If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

Note

You must set up LiveLink when you create a team.

(3) Setting up team/LiveLink

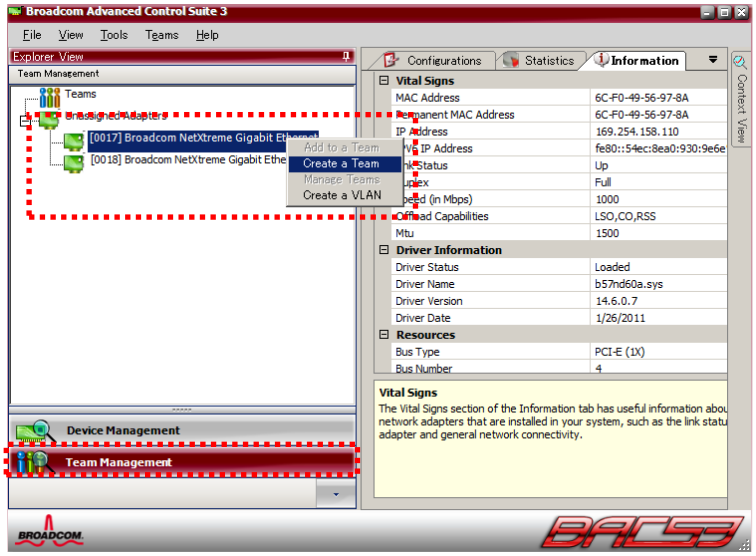
Note

- The team must be composed of two adapters.
- Possible combinations of network adapters that compose the team are as follows.
  - Between standard network adapters.
  - Between N8104-128 adapters
  - Between LAN card/ riser cards excluding N8104-128
  - A standard network adapter and LAN board / Riser Card(N8104-128 does not include.)

Tips

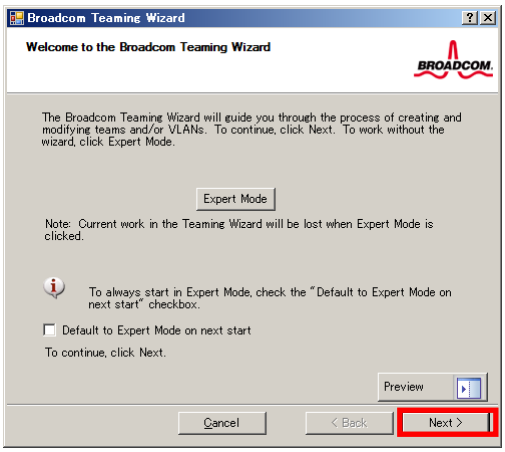
To edit a team, right-click on the BACS team, and then select **Edit TEAM**.
Then refer to step 3 and later in *Chapter 1 (4.5.3 Setting up team/LiveLink) - (3) Setting up team/LiveLink* to edit the team.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Select **Team Management** from the left menu, right-click the adapter to be used for the team, and then select **Create a Team** from the short-cut menu.



The **Broadcom Teaming wizard** appears.

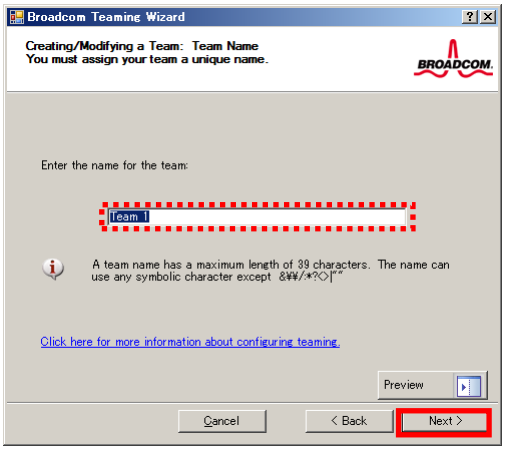
3. Click [Next].


Broadcom Teaming Wizard
Welcome to the Broadcom Teaming Wizard
BROADCOM.
The Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs. To continue, click Next. To work without the wizard, click Expert Mode.
Expert Mode
Note: Current work in the Teaming Wizard will be lost when Expert Mode is clicked.
To always start in Expert Mode, check the "Default to Expert Mode on next start" checkbox.
Default to Expert Mode on next start
To continue, click Next.
Preview
Cancel
< Back
Next >

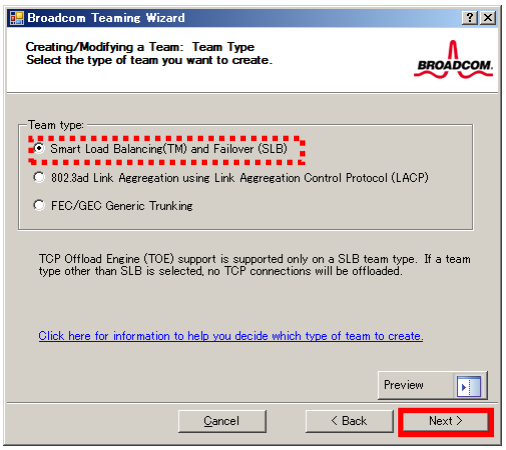
Note

Do not use Expert Mode.

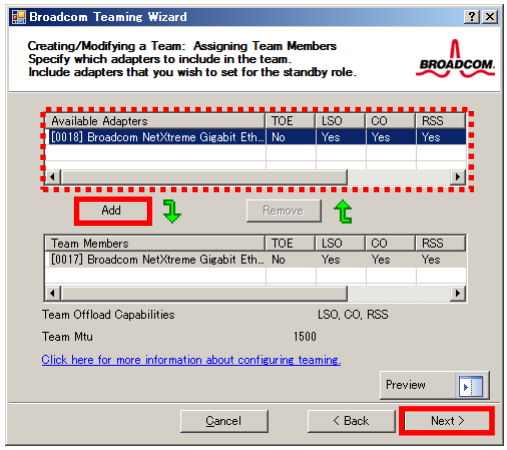
4. Enter any name into the team name entry column, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Name
You must assign your team a unique name.
BROADCOM.
Enter the name for the team:
Team 1
A team name has a maximum length of 39 characters. The name can use any symbolic character except &¥¥/:*?<>|"
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

5. Make sure that the following team type is selected, and then click [Next].
   Team type: Smart Load Balancing (TM) and Failover (SLB)


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Type
Select the type of team you want to create.
BROADCOM.
Team type:
Smart Load Balancing(TM) and Failover (SLB)
802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP)
FEC/GEC Generic Trunking
TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team type other than SLB is selected, no TCP connections will be offloaded.
Click here for information to help you decide which type of team to create.
Preview
Cancel
< Back
Next >

6. Select the adapters that compose the team, click [Add] to add them to the **Team Members** area, and then click [Next].

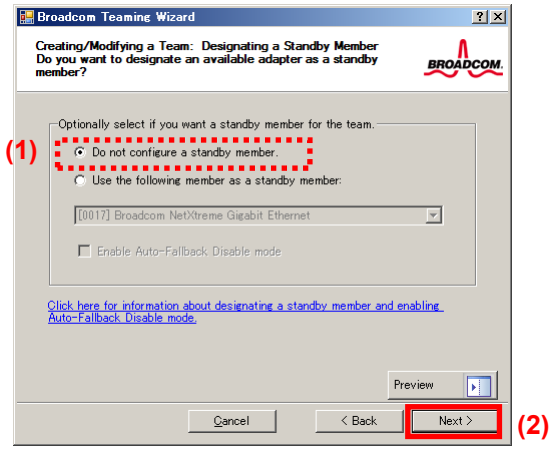


7. Proceed according to your desired team type.

   – Smart Load Balancing and Failover (without Standby Member)

   (1) Select **Do not configure a standby member**.

   (2) Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
(1)
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Fallback Disable mode
Click here for information about designating a standby member and enabling Auto-Fallback Disable mode.
Preview
Cancel
< Back
Next >
(2)

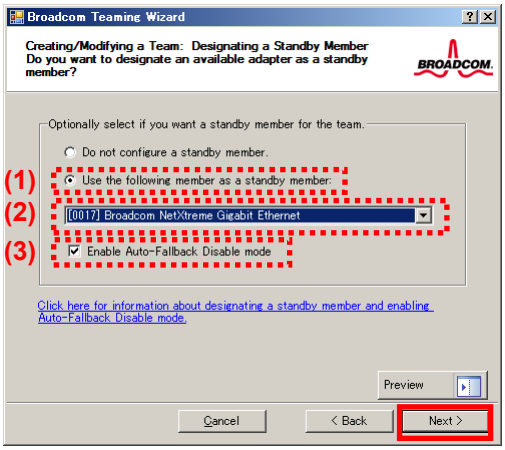
– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

(1) Select **Use the following member as a standby member**.

(2) Select the adapter that is to be a standby member from the drop-down list.

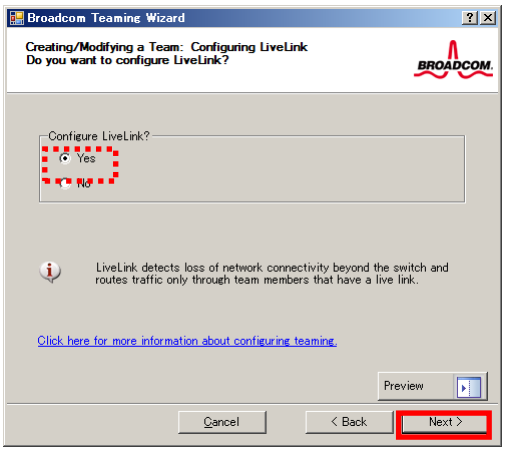
(3) Select **Enable Auto-Failback Disable mode**.

(4) Click [Next].

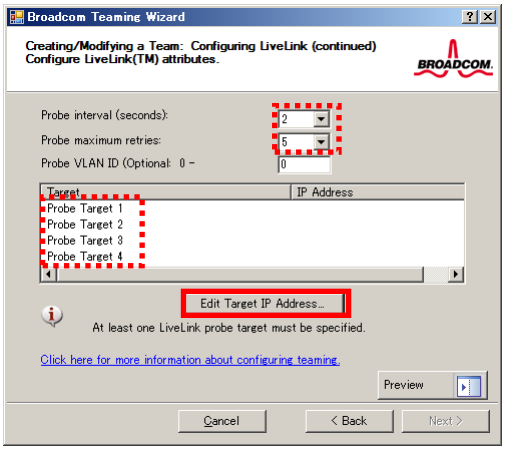

Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Failback Disable mode
(1)
(2)
(3)
Click here for information about designating a standby member and enabling Auto-Failback Disable mode.
Preview
Cancel
< Back
Next >
(4)

Note *Enable Auto-Failback Disable mode* is cleared while editing the team. Select it again.

8. Select **Yes** for **Configure LiveLink?**, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink
Do you want to configure LiveLink?
BROADCOM.
Configure LiveLink?
Yes
No
LiveLink detects loss of network connectivity beyond the switch and routes traffic only through team members that have a live link.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

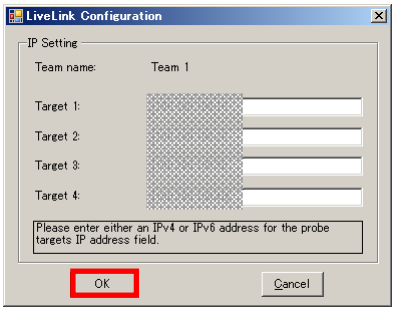
9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target *xx***), and then click [Edit Target IP Address…].



Tips

- The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds).
- The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times).
- Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.
  If an optional LAN board detects that a link is down, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down.

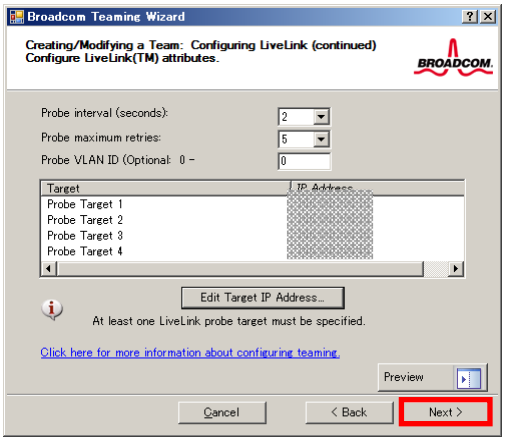
10. In the **Target *xx*** text box, enter the IP address of the alive monitoring server, and then click [OK].



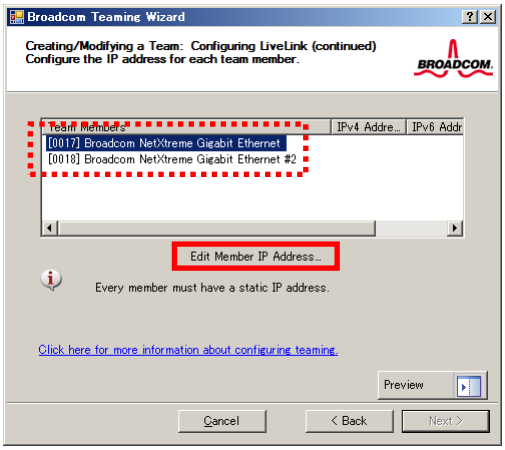
Note

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

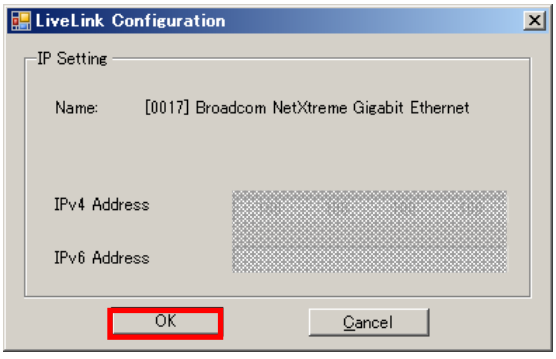
11. Click [Next].



12. Select an adapter from the **Team Members** area, and then click [Edit Member IP Address…].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Addre...
IPv6 Addr
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

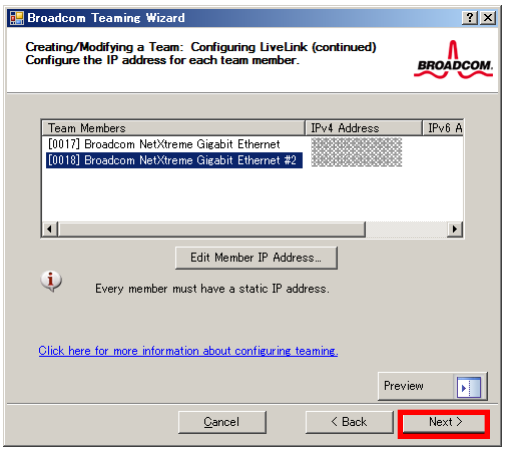
13. Enter the IP address used for LiveLink communication, and then click [OK].



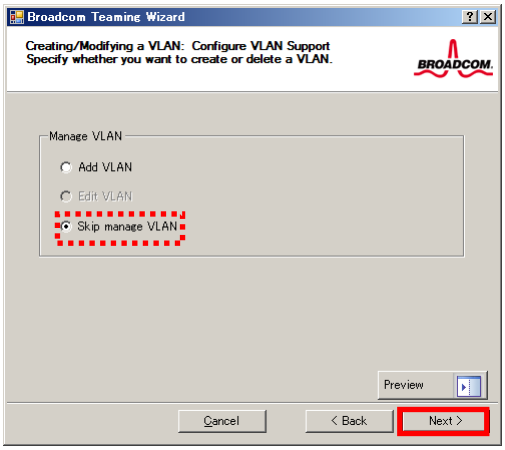
Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

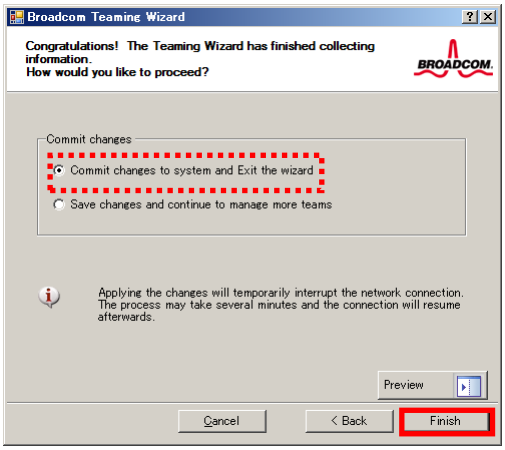
14. Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Address
IPv6 A
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click [Next].



16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click [Finish].


Broadcom Teaming Wizard
Congratulations! The Teaming Wizard has finished collecting information.
How would you like to proceed?
BROADCOM.
Commit changes
Commit changes to system and Exit the wizard
Save changes and continue to manage more teams
Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards.
Preview
Cancel
< Back
Finish

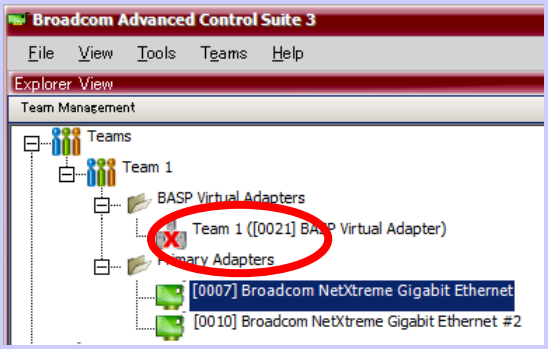
Note

When the message below appears, select [Yes].

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?"

Tips

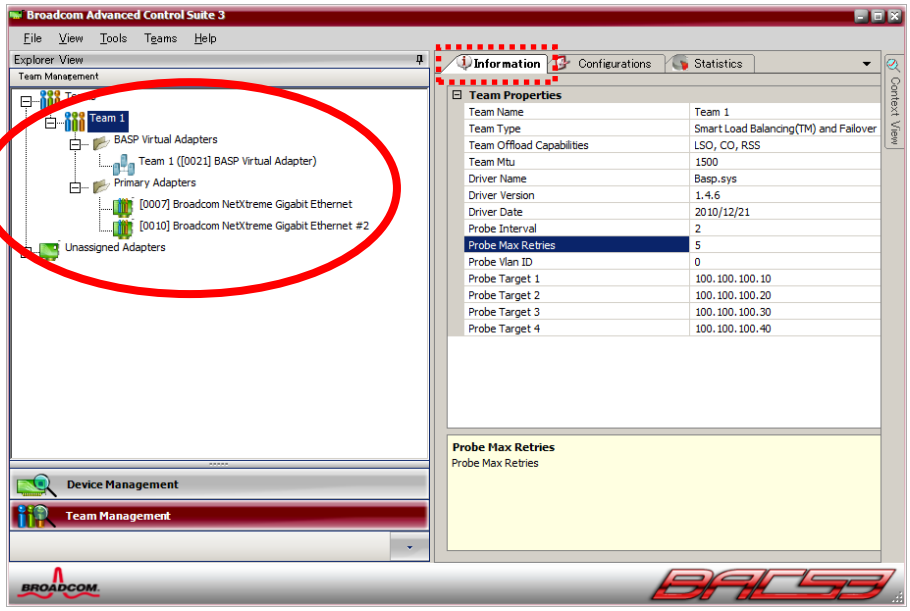
After creating a team, if the teaming adapter displays like the following image, perform steps 8 through 14 again and correct the LiveLink settings.



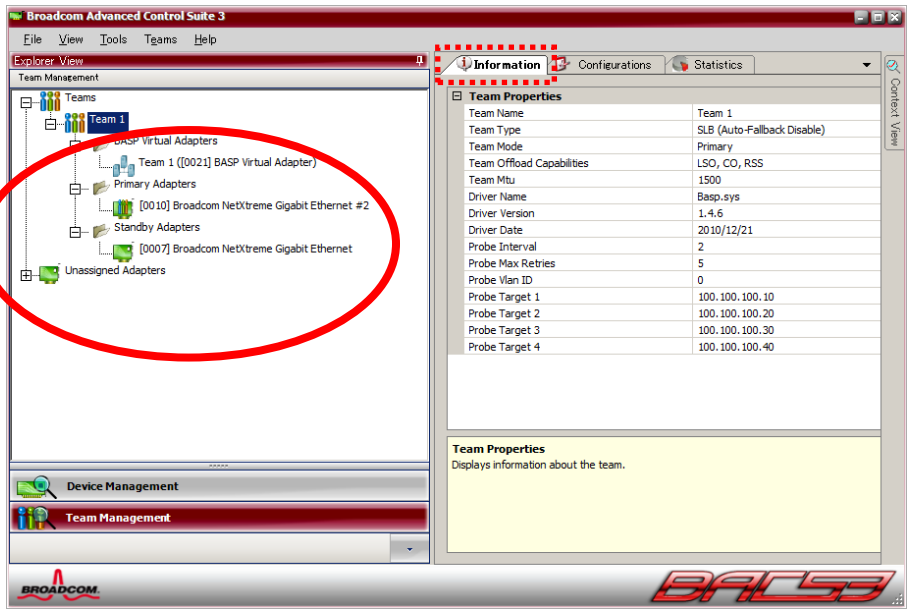
17. Restart the system.

18. After the system starts, follow step 1 to start **Broadcom Control Suite3** and confirm that a team has been created. Confirm the team settings on the **Information** window to the right.

– Smart Load Balancing and Failover (without Standby Member)



– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)



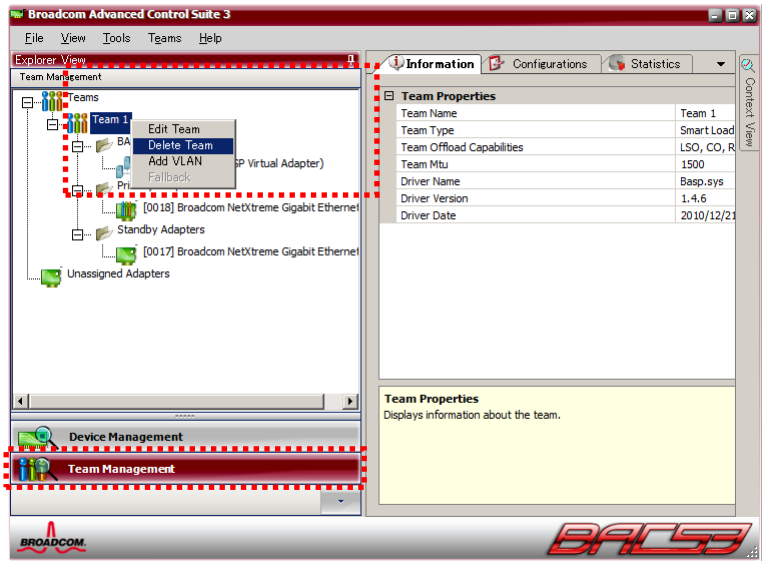
Team setup is now complete.

(4) Procedure for deleting team

Note

You must delete teams from Broadcom Control Suite3.
You cannot delete the team from the team adapter displayed in the Device Manager.

1. Double-click **Broadcom Control Suite3** in the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Click **Team Management** from the left menu, right-click the team name under **Teams**, and then select **Delete Team** from the short-cut menu.



Note

When the message below appears, select [Yes].

```
"The selected team will be deleted from system, do you want to
proceed?
   NOTE:  Applying the changes will temporarily interrupt the
          network connection. The process may take several
          minutes and the connection will resume afterwards."
```

3. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If Autorun Menu appears, close the menu window.

Tips

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

4. Double-click `addlvlanstats.vbs` in the following folder.

   – When using EXPRESSBUILDER DVD:
   <Windows Server 2008 64-bit Edition>
   Optical disk drive:\021\win\winnt\ws2008x64\lan
   <Windows Server 2008 32-bit Edition>
   Optical disk drive:\021\win\winnt\ws2008\lan

   – If Starter Pack was installed from Internal Flash Memory:
   <Windows Server 2008 64-bit Edition>
   System drive:\StartPKG\ws2008x64\lan
   <Windows Server 2008 32-bit Edition>
   System drive:\StartPKG\ws2008\lan

5. When the following message appears, click [OK].

6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

4.5.4 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

If you completed Setup with EXPRESSBUILDER, then the graphics accelerator driver has been automatically installed.

Tips The graphics accelerator driver is only enabled in Full installations. Standard VGA is used in the case of Server Core installation.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If Autorun Menu appears, close the menu window.

   Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

2. From the **Start** menu, point to **All programs**, **Accessories**, and then select **Explorer**.
3. Double-click the **install.bat** icon in the following folder.

   When using EXPRESSBUILDER DVD:

   – Windows Server 2008 64-bit Edition
   Optical disk drive:\021\win\winnt\ws2008x64\video

   – Windows Server 2008 32-bit Edition
   Optical disk drive:\021\win\winnt\ws2008\video

   If Starter Pack was installed from Internal Flash Memory:

   – Windows Server 2008 64-bit Edition
   System drive:\StartPKG\ws2008x64\video

   – Windows Server 2008 32-bit Edition
   System drive:\StartPKG\ws2008\video

   Continue installation according to the onscreen messages.
   You will be prompted to confirm the End User License Agreement during this process. Click the [ACCEPT] button and continue.
4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

4.5.5 When using a SCSI controller (N8103-107)

The driver for SCSI controller N8103-107 is automatically installed by Windows Plug-and-Play.

4.5.6 When using a SAS controller (N8103-104A/142)

The driver for SAS controller N8103-104A/142 is automatically installed by Windows Plug-and-Play.

4.5.7 When using a RAID Controller (N8103-160)

The driver for RAID Controller N8103-160 is automatically installed by Windows Plug-and-Play.

4.5.8 When using a Fibre Channel controller (N8190-153/154)

The driver for Fibre Channel controller N8190-153/154 is automatically installed by Windows Plug-and-Play.

4.6 Specifying PAE Option

If the server can mount a memory of more than 4 GB in a 32-bit system, specify the PAE option settings to use that memory.

Important **The PAE option is not supported by Windows Server 2008 Standard.**

For Windows Server 2008, the PAE option can be specified by using the `Bcdedit.exe` file. Follow the procedure below to specify the PAE option.

1. Select **Run** from the **Start** menu.
2. Enter `cmd.exe` in the **Open** text box, and then click [OK] to start the command prompt.
3. Execute the following command at the command prompt:
   `bcdedit /set pae forceenable`
4. Restart the system.
   The above setting is applied after restart.
5. Execute the following command at the command prompt:
   `bcdedit`
   Make sure that `pae ForceEnable` is added to **Windows Boot Loader**.

Specification of the PAE option settings is now complete.
For details about `Bcdedit.exe`, refer to the following:

Boot Configuration Data Editor Frequently Asked Questions

http://technet.microsoft.com/en-us/library/cc721886(WS.10).aspx

4.7 Installing the Bundled Software

The supplied EXPRESSBUILDER DVD contains the server monitoring software NEC ESMPRO Agent and system management software NEC ESMPRO Manager.

You can install NEC ESMPRO Agent automatically by performing Setup with EXPRESSBUILDER.

Open the Programs or Control Panel window from the **Start** menu, and make sure that the folders for the utilities you have installed are contained. If you did not install them at the time of Setup with EXPRESSBUILDER, refer to *Chapter 2 Installing the Bundled Software* to install the software separately.

4.8 License Authentication

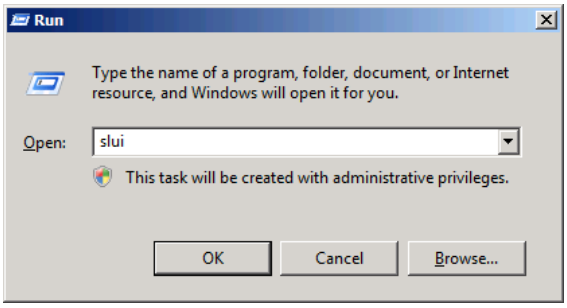
To use Windows Server 2008, confirm whether the license has been authenticated, and if it has not, perform the license authentication procedure.

The following describes the license authentication procedure.

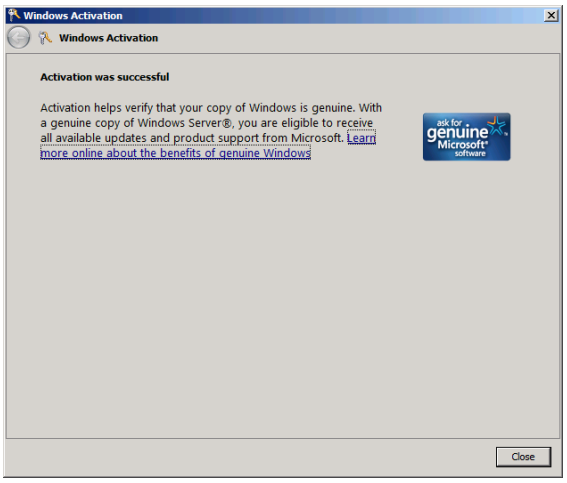
(1) Full installations

1. Select **Run** from the **Start** menu.
   Enter the following, and then press <Enter> key.

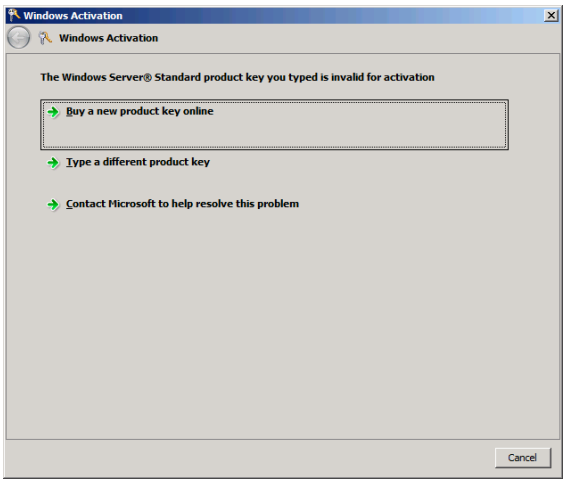
```
slui
```


Run
Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:
slui
This task will be created with administrative privileges.
OK
Cancel
Browse...

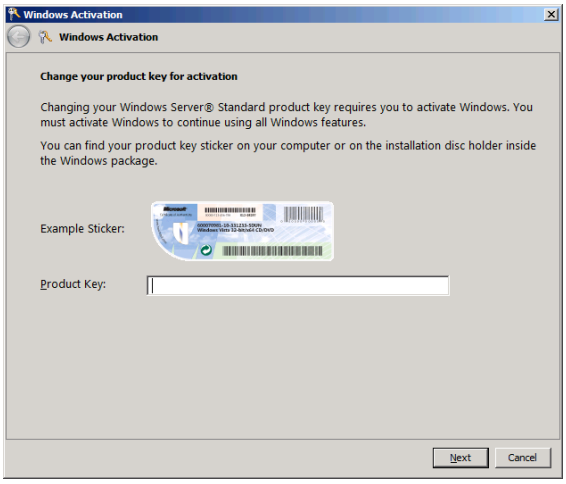
If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure. Click [Close] to exit.


Windows Activation
Windows Activation
Activation was successful
Activation helps verify that your copy of Windows is genuine. With a genuine copy of Windows Server®, you are eligible to receive all available updates and product support from Microsoft. Learn more online about the benefits of genuine Windows
ask for genuine Microsoft software
Close

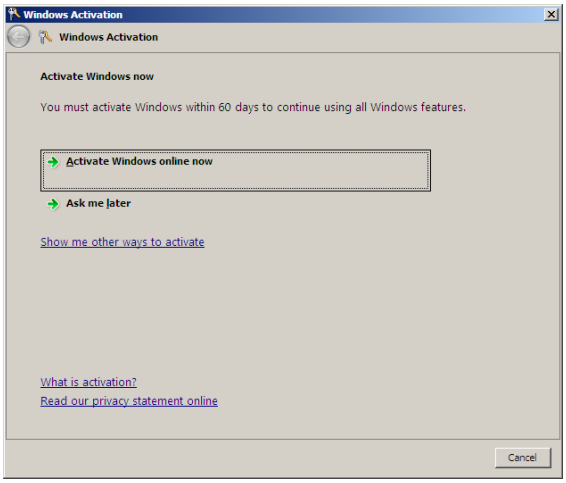
2. For installation from Backup DVD-ROM, replace the product key.
   When the following window appears, click **Change product key**.


Windows Activation
Windows Activation
The Windows Server® Standard product key you typed is invalid for activation
Buy a new product key online
Type a different product key
Contact Microsoft to help resolve this problem
Cancel

3. When the following window appears, enter the product key found on the COA label, and then click [Next].


Windows Activation
Windows Activation
Change your product key for activation
Changing your Windows Server® Standard product key requires you to activate Windows. You must activate Windows to continue using all Windows features.
You can find your product key sticker on your computer or on the installation disc holder inside the Windows package.
Example Sticker:
Product Key:
Next
Cancel

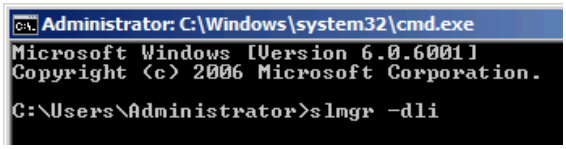
4. Follow the instructions in the following message to start the license authentication process.


Windows Activation
Windows Activation
Activate Windows now
You must activate Windows within 60 days to continue using all Windows features.
Activate Windows online now
Ask me later
Show me other ways to activate
What is activation?
Read our privacy statement online
Cancel

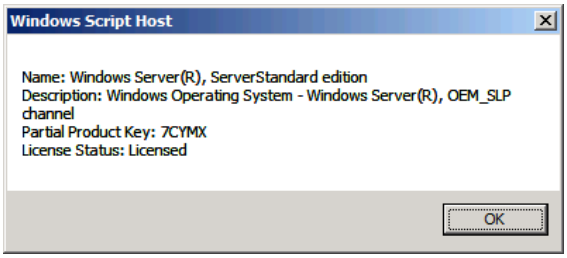
Windows activation is now complete.

(2) Server Core installations

1. At the command prompt, enter the following, and then press <Enter> key.
   `slmgr -dli`

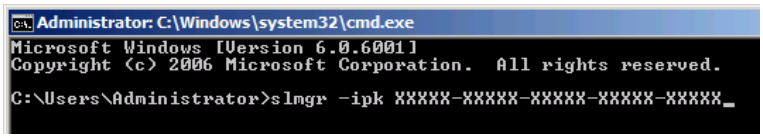


   If the following message appears, Windows has already been activated on your system. You do not need to complete this procedure. Click [OK] to finish.


Windows Script Host
Name: Windows Server(R), ServerStandard edition
Description: Windows Operating System - Windows Server(R), OEM_SLP channel
Partial Product Key: 7CYMX
License Status: Licensed
OK

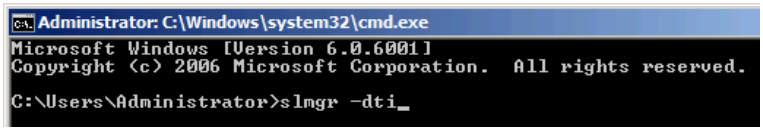
2. For installation from Backup DVD-ROM, replace the product key.

   At the command prompt, enter the following, and then press <Enter> key. Set the product key found on the COA label in *PID*.
   `slmgr -ipk PID`


Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -ipk XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

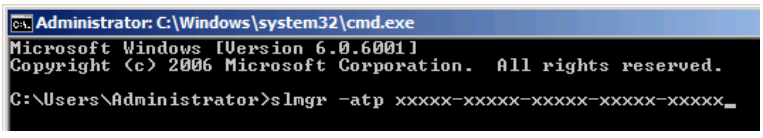
3. Obtain an installation ID for Windows activation.

   At the command prompt, enter the following, and then press <Enter> key.
   `slmgr -dti`


Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -dti

4. Reference `%systemroot%\system32\slui\phone.inf` for the telephone number of the license authentication customer service.
5. Call the above number, inform the representative of the installation ID which you obtained in step 3, and receive a confirmation ID.
6. Type the confirmation ID you received in step 5.

   At the command prompt, enter the following, and then press <Enter> key. *CID* is the confirmation ID that you received from customer service.
   `slmgr -atp CID`


Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>slmgr -atp xxxxx-xxxxx-xxxxx-xxxxx-xxxxx

Windows activation is now complete.

4.9 Applying Service Pack

When applying Service Pack 2, refer to the following Microsoft website:
http://support.microsoft.com/kb/948465/en-us

4.10 Installation When Multiple Logical Drives Exist

Before starting installation, backup data for future use in case of data loss.

Important **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.**

(1) Installation process

– Setup with EXPRESSBUILDER
Refer to *Chapter 1 (4.2 Setup with EXPRESSBUILDER)*, and proceed with setup.

In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

– Setup with OS standard installer

1. Refer to *Chapter 1 (4.3 Setup with OS Standard Installer)*, and start setup.
2. When the following message appears, select the partition to which you want to set up the operating system.

```
Select the location to which Windows will be installed
```

The order and numbers of the disks displayed on the screen **might not match the server's slot** of the hard disk drives. **Distinguish between the hard disk drives by viewing the hard disk drive capacity and partition size** displayed on the screen, and then select a drive to install the Windows system. Selecting an improper drive might cause an unintentional corruption of the existing data. Be careful when selecting a hard disk drive on which to install the system.

Important

- **For details, refer to the following Microsoft website: http://support.microsoft.com/kb/937251/en-us**
- **You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this window are correct, and then proceed with setup.**

3. Refer to *Chapter 1 (4.3 Setup with OS Standard Installer)*, and proceed to setup Windows with OS standard installer and the instructions.

Tips The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in *Changing drive letter assignments* below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

1. From the **Start** menu, right-click **Computer** and then select **Management**. Next, launch **Server Manager**.
2. From the window on the left, select **Storage** and then **Disk Management**.
3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
4. Click [Change].
5. Click [Assign next drive letter], and then select the drive letter you want to assign.
6. Click [OK].
7. When the following message appears, read the contents and then click [OK].

```
Some programs are dependent on drive letters, and may
not run properly. Continue?
```

8. Close the Server Manager.

5. Setting Up Windows Server 2003 R2 x64 Edition

Set up Windows Server 2003 R2 x64 Edition.

5.1 Before Starting Setup

Read through the cautions explained here before starting setup.

EB: Confirm during Setup with EXPRESSBUILDER

OS: Confirm during Setup with OS standard installer

(1/3)

Setup		Items to confirm	
–	OS	Windows family	The following editions of the Windows Server 2003 family may be installed. • Windows Server 2003 R2 Standard x64 Edition • Windows Server 2003 R2 Enterprise x64 Edition Inquiries about installing other editions may be made at your sales dealer or maintenance service company. When applying Service Pack 1, refer to the following About Windows Server 2008 R2 and Windows 7 Service Pack 1: **Note** **Setup with EXPRESSBUILDER cannot be used.**
–	OS	License authentication	If Windows Server 2003 R2 x64 Edition is installed from a backup CD, the license is already activated. If Windows Server 2003 R2 x64 Edition is installed from an OS CD instead of a backup CD, a product key is required for license authentication. At this time, the product key must be the same as that indicated on the COA label of Windows Server 2003 R2 x64 Edition. For details, refer to *Chapter 1 (5.6 License Authentication)*. **Important** • **Activate within 30 days following installation. The system might be locked if 30 days have passed without activation.**
		Hardware configuration	When installing Windows Server 2003 R2 x64 Edition using the OS standard installer, the following hardware configurations require special procedures.
–	OS		• When using the OEM drivers, be sure to change the boot order of the Flash FDD on the BIOS settings as follows: Select **Boot**, **Floppy Drive BBS priorities**, **Boot Option #1**, and then specify the Flash FDD used. **Note** Change as instructed in *Chapter 1 (5.2.3 Setup procedure)*.

(2/3)

Setup		Items to confirm	
–	OS	Hardware configuration	• Notes on using N8103-149/150/151 on Windows2003: 1) When a battery is used: The following message may appear on POST screen at reboot if Service Pack2 is not yet applied. It is not the problem. cache data recovered successfully 2) When no battery is used: - Set the cache mode of RAID Controller to the default setting (AutoSwitch or WriteThrough) until Service Pack 2 is applied. - To operate the RAID Controller in WriteBack mode, change setting to WriteBack after Service Pack 2 is applied. * The default cache mode of RAID Controller is AutoSwitch. It will not change to WriteBack mode unless it is changed manually at or after creation of VD.
–	OS		• Connecting MO devices Installing Windows while an MO device is connected can result in installation failure. Remove the MO device, and then start installation from the beginning.
–	OS		• DAT, LTO, and similar media Do not set media that is unnecessary to installation during setup.
–	OS		• Connecting to multiple hard disk drives (Logical Drives) For details on installing operating systems to a system in which multiple Logical Drives exist, refer to *Chapter 1 (5.7 Installation When Multiple Logical Drives Exist)*.
–	OS		• Reinstallation to a dynamic disk: When installing the OS on a hard disk drive with multiple partitions that was upgraded to a dynamic drive and you wish to retain the existing partition configuration and data areas, note the following: Data area (partition to be retained) - Select the partition on which the OS was previously installed. - Select **Leave the current file system intact (no change)** for the OS partition format.
–	OS	Service Pack	Before applying a Service Pack, make sure that Windows Server 2003 R2 Edition DISC 2 has been installed.
–	OS		Use Starter Pack when you apply a Service Pack from the Service Pack 2 CD-ROM.
–	OS		If you used OS installation media including Service Pack 2 for installation, you do not have to install Service Pack 2 again.

(3/3)

Setup		Items to confirm	
–	OS	System partition size	The system partition size can be calculated by using the following formula. Size required to install the OS + paging file size + dump file size + application size Size required to install the OS = 4,100 MB (Windows Server 2003 R2 x64 Edition with Service Pack 2) = 5,900 MB (Windows Server 2003 R2 x64 Edition + Service Pack 2 CD-ROM) Paging file size (recommended) = installed memory size × 1.5 Dump file size = installed memory size + 1 MB Application size = as required by the application For example, if the installed memory size is 1 GB (1,024 MB) and Full installation is selected, the partition size is calculated as follows: 4,100 MB + (1,024 MB × 1.5) + 1,024 MB + 1 MB + application size = 6,661 MB + application size **Note** • The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information. • Regardless of the sizes of internal memory and write debug information, the maximum size of the dump file is "size of internal memory + 1 MB". • When installing other applications or other items, add the amount of space needed by the application to the partition. If the partition size for installing the system is smaller than the size required for installation + paging file size, expand the partition size or add another disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the following steps. 1. Set the system partition size to a size sufficient to install the OS and paging file. 2. Write the debug information of the dump file onto another disk by referring to *7. Setup for Solving Problems*. If there is not enough disk space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another disk for the dump file.
–	OS	Setup with OS standard installer	Dialog boxes might appear several times during installation, but it does not affect system installation. Click [Yes] on such dialog boxes, and continue installation according to the displayed messages.

5.2 Setup with OS Standard Installer

This section describes how to install Windows with OS Standard Installer.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide*".

Important

Setup with OS standard Installer may delete all data of the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:

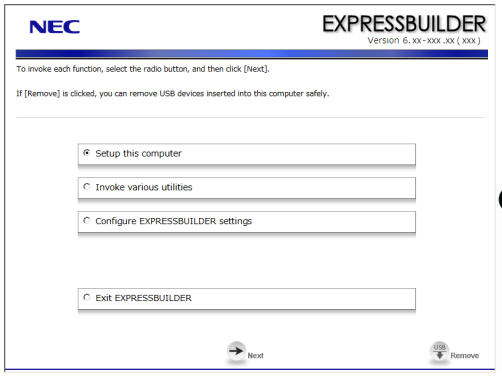
– RAID settings wizard

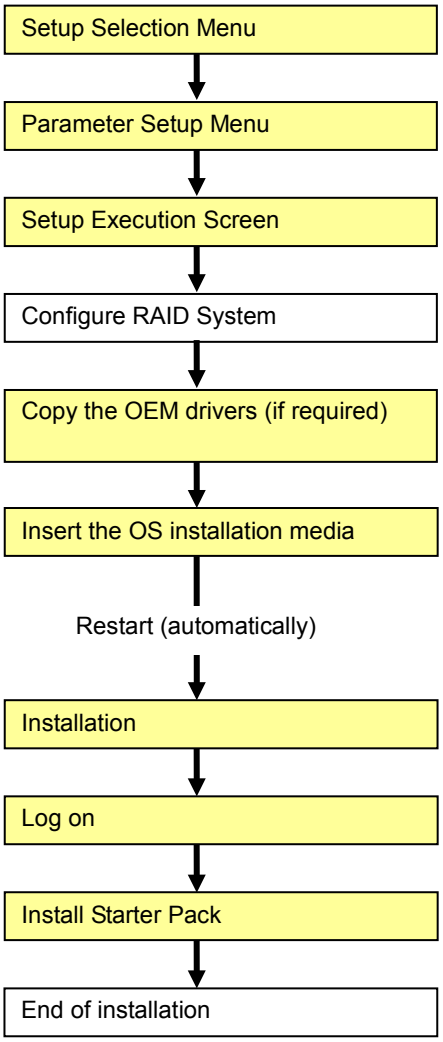
Backing up user data, as needed, is recommended.

Tips

- Setup with OS Standard Installer allows you to use a prespecified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *Chapter 1* (*8 Windows OS Parameter File)*.

5.2.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



	Process that requires input or selection
	Process that proceeds automatically

5.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **Backup CD-ROM Windows Server 2003 R2, Standard x64 Edition DISC 1** (hereafter referred to as *Backup CD-ROM DISC 1*), and **Microsoft Windows Server 2003 R2 Standard x64 Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 Edition x64 DISC 2*)
  - **Backup CD-ROM Windows Server 2003 R2, Enterprise x64 Edition DISC 1** (hereafter referred to as *Backup CD-ROM DISC 1*), and **Microsoft Windows Server 2003 R2, Enterprise x64 Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 x64 Edition DISC 2*)
  - **Microsoft Windows Server 2003 R2, Standard x64 Edition DISC 1** (hereafter referred to as *Windows Server 2003 R2 x64 Edition DISC 1*), and **Microsoft Windows Server 2003 R2 Standard x64 Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 x64 Edition DISC 2*)
  - **Microsoft Windows Server 2003 R2, Enterprise x64 Edition DISC 1** (hereafter referred to as *Windows Server 2003 R2 x64 Edition DISC 1*), and **Microsoft Windows Server 2003 R2 Enterprise x64 Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 x64 Edition DISC 2*)
- **Windows Server 2003 Editions Service Pack 2** (CD-ROM)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory** (If "Internal Flash Memory" is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Flash FDD for creating OEM drivers** (Windows Server 2003 x64 Edition)

Note

OEM drivers are necessary if a RAID Controller or optional board is connected.
Use a Flash FDD as the removable media to create OEM drivers.

Tips

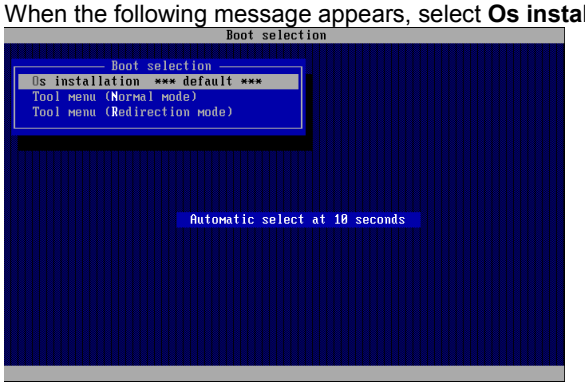
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

5.2.3 Setup procedure

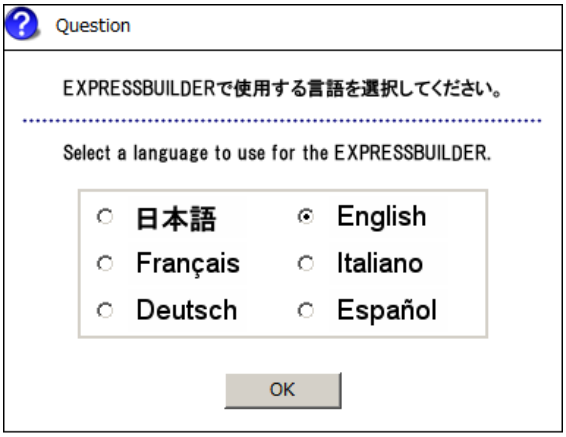
This section describes the procedure for installing Windows Server 2003 R2 x64 Edition using the OS standard installer.

Note Read through the items in *Chapter 1* (*5.1 Before Starting Setup*) prior to installing Windows.

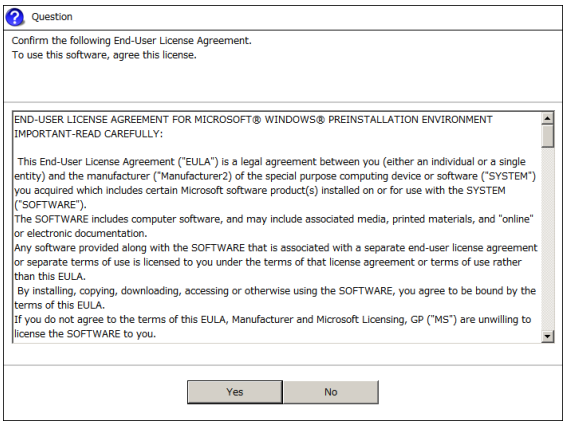
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.



4. Select **English** on the language selection menu, and then click [OK].

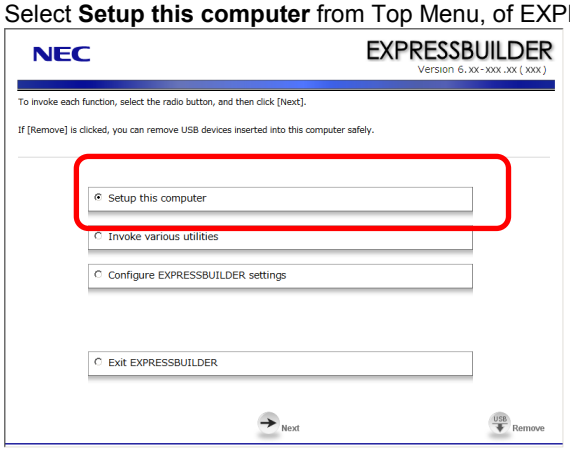


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

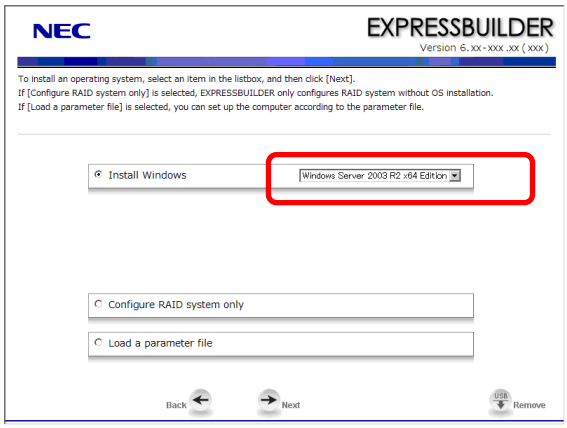
6. Select **Setup this computer** from Top Menu, of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

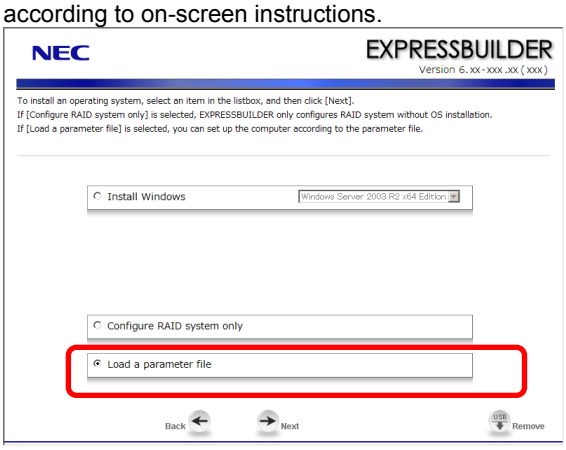
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

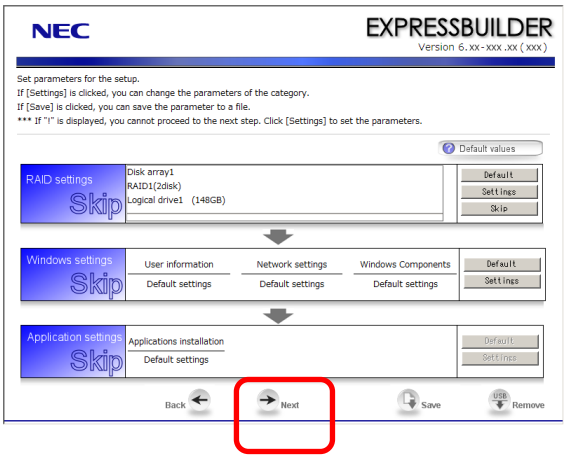
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next].
   On this dialog, select "Windows Server 2003 R2 x64 Edition" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2 x64 Edition
Configure RAID system only
Load a parameter file
Back
Next
Remove

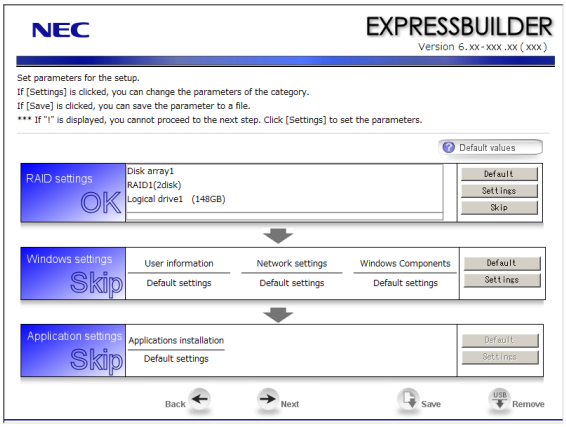
9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to on-screen instructions.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2 x64 Edition
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 16.

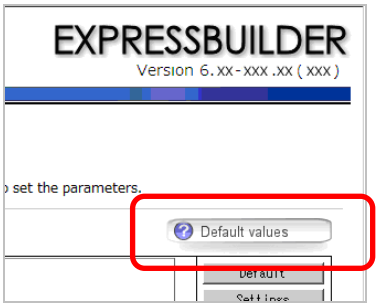


10. Set parameters required for setup.
Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

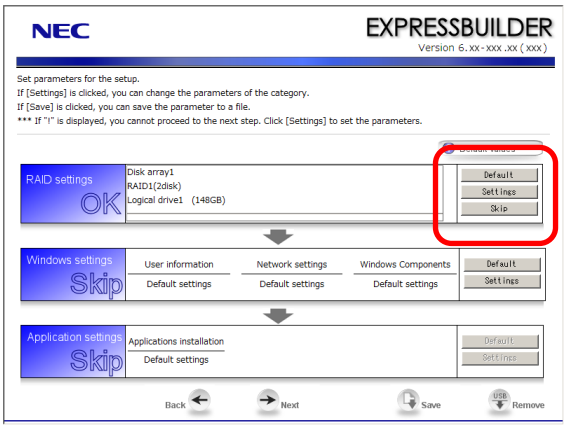
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1) Click [Settings] in RAID settings.

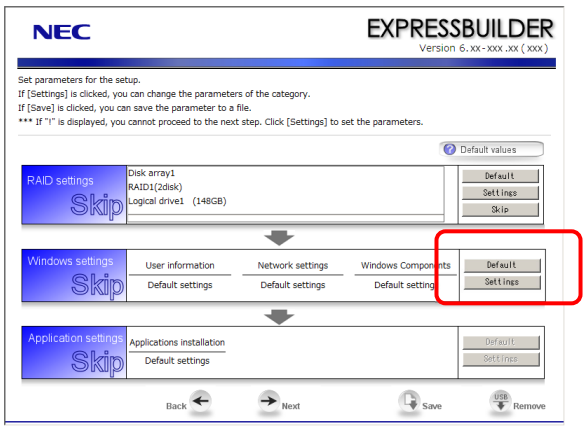
(2) Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

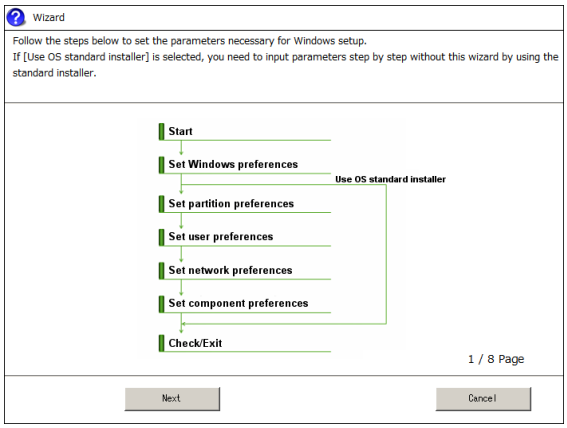
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

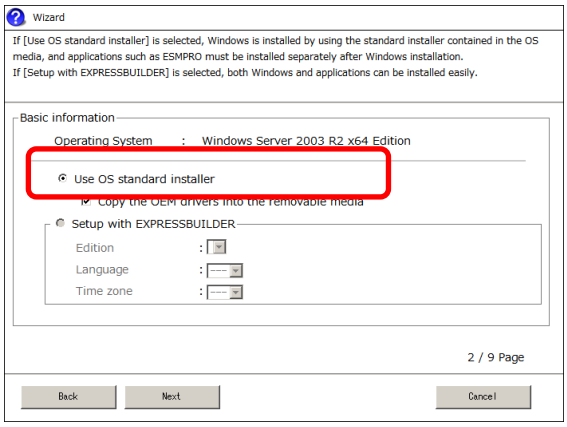
11. Click [Settings] in **Windows settings**.



12. Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

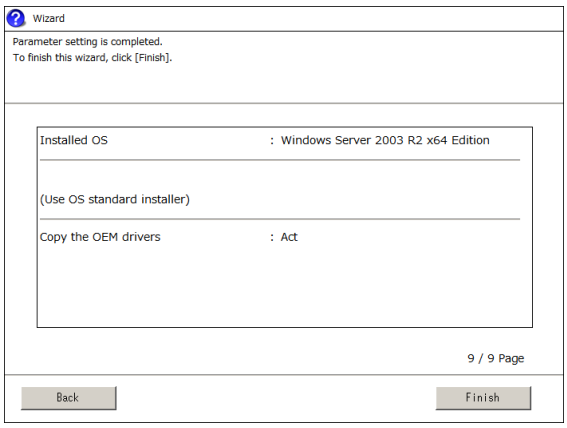
13. Specify the Windows basic settings
The basic information window appears. Select **Use OS standard installer**, and then click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2003 R2 x64 Edition
Use OS standard installer
Copy the OEM drivers into the removable media
Setup with EXPRESSBUILDER
Edition :
Language :
Time zone :
2 / 9 Page
Back
Next
Cancel

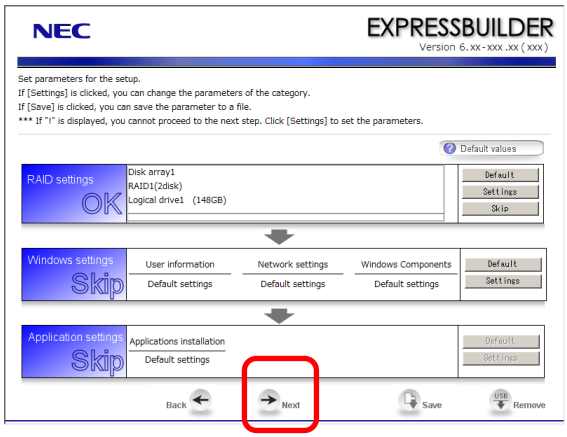
If copying the OEM drivers to the removable media, select **Copy the OEM drivers into the removable media**.

Tips If you copied the OEM drivers to a Flash FDD, format it to FAT16.

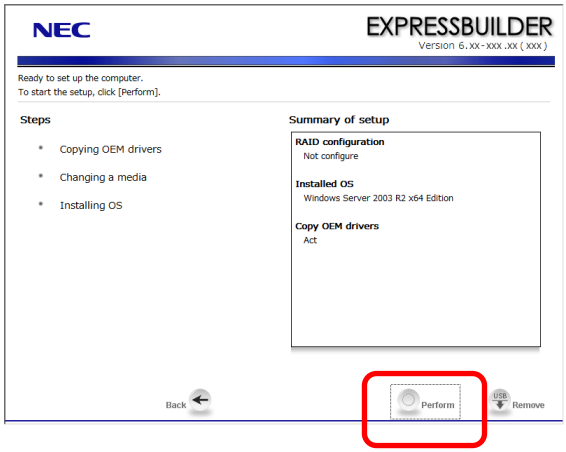
14. Confirm settings on the confirmation window, and click [Finish].


Wizard
Parameter setting is completed.
To finish this wizard, click [Finish].
Installed OS : Windows Server 2003 R2 x64 Edition
(Use OS standard installer)
Copy the OEM drivers : Act
9 / 9 Page
Back
Finish

15. Click [Next] on Parameter Setup Menu.



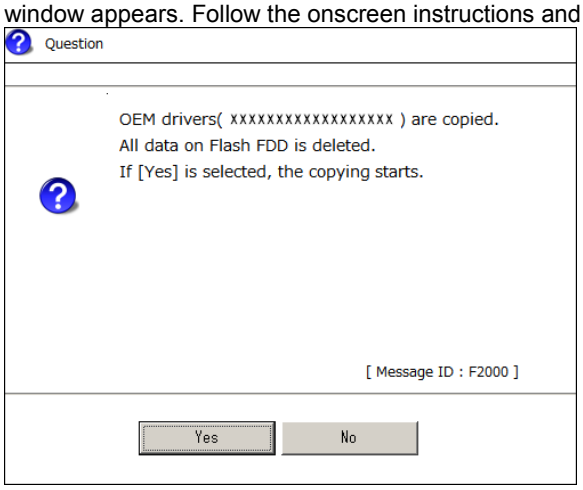
16. Confirm the summary of setup on the screen below, and click [Perform].
The server automatically restarts.



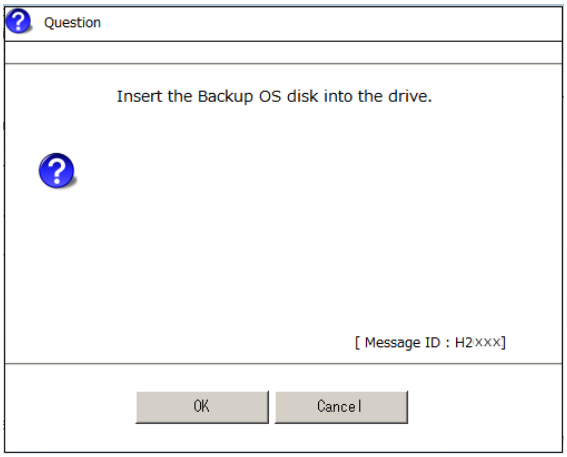
Note

- If you select the **Copy the OEM drivers into the removable media** check box, insert a Flash FDD into the server and then click [Perform].
- Do not remove the media while copying OEM drivers.

17. Continue setup according to on-screen message.
If the **Copy the OEM drivers to the removable media** checkbox is selected in step 13, the following window appears. Follow the onscreen instructions and continue the operation.


Question
OEM drivers(xxxxxxxxxxxxxxxxx) are copied.
All data on Flash FDD is deleted.
If [Yes] is selected, the copying starts.
[Message ID : F2000]
Yes
No

When the following message appears, set OS installation media, and click [OK].



18. The server automatically restarts.
To use OEM driver, change boot priority of Flash FDD on BIOS settings, after restarting the server.
Select **Boot**, **Floppy Drive BBS priorities**, **Boot Option #1**, and then specify the Flash FDD used.

19. Run from the OS installation media.
If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message “Press any key to boot from CD or DVD…” is displayed on the top of the screen.

The boot sequence proceeds and the following message appears.

Note If this message does not appear, reboot the server and retry.

This step is unnecessary if no bootable operating system exists.

20. If a RAID Controller or optional SCSI Controller is used, press <F6> key while either of the following messages is displayed. If not, go to step 27 without pressing <F6> key.

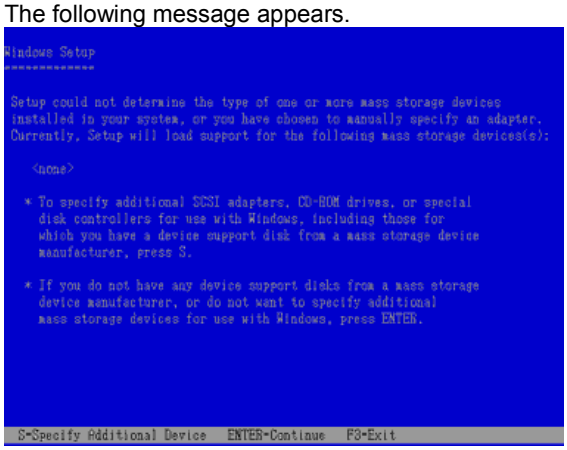
    "Setup is inspecting your computer's hardware configuration" (on the top of the screen)

    "Press F6 if you need to install a third party SCSI or RAID driver…" (on the bottom of the screen)

Tips

- Note that nothing changes on the screen even when <F6> key is pressed.
- If the OEM drivers list is not displayed at step 22,24 or 26, check the boot order of the Flash FDD on BIOS settings.

21. The following message appears.


Windows Setup
Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage devices(s):
<none>
* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.
* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
S=Specify Additional Device ENTER=Continue F3=Exit

If N8103-149/150/151 RAID Controller is connected, press <S> key and go to step 22.
If not, go to step 23.

22. Select the following from the driver list, and then press <Enter> key.

    LSI MegaRAID SAS RAID Controller Driver

    The screen shown in step 21 appears. Go to step 23.

23. If N8103-107 is connected, press <S> key and go to step 24. If not, go to step 25.

24. Select **Adaptec Ultra320 SCSI Cards (Windows 64-bit)**, and then press <Enter> key.

Note

If the following message appears, press <S> key to proceed.

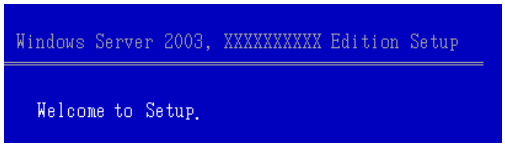
```
The driver you provided seems to be newer than the Windows
default driver.
Windows already has a driver that you can use for "Adaptec
Ultra 320 SCSI Cards (Windows 64-bit)"
Unless the device manufacturer prefers that you use the
driver on the floppy disk, you should use the driver in
Windows.
```

    The screen shown in step 21 appears again. Go to step 25.

25. If N8103-104A is connected, press <S> key and go to step 26.
    If not, press <Enter> key and go to step 27.

26. Select **LSI Fusion-MPT SAS Driver (Server 2003 x64)**, and then press <Enter> key.
The screen shown in step 21 appears again. Press <Enter> key and go to step 27.

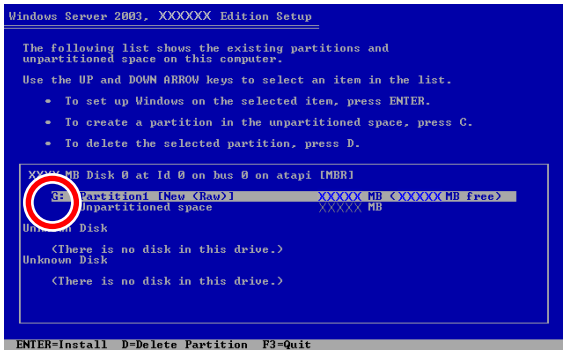
27. When the following message appears, press <Enter> key to start Windows setup.



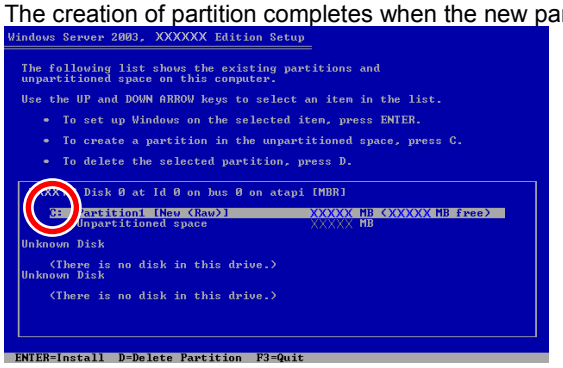
The following screen is displayed for setting the partition of Windows.

If the partition created is shown as "G:", delete the partition "G:" . If it is shown as "C:", you do not need to delete the partition.

Important **Pay attention to a partition you are going to delete.**


Windows Server 2003, XXXXXX Edition Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
Partition1 [New (Raw)] XXXXX MB (XXXXX MB free)
Unpartitioned space XXXXX MB
Unknown Disk
(There is no disk in this drive.)
Unknown Disk
(There is no disk in this drive.)
ENTER=Install D=Delete Partition F3=Quit

Create a partition again by pressing <C> key.
The creation of partition completes when the new partition is created in drive "C:", as shown below.


Windows Server 2003, XXXXXX Edition Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
Partition1 [New (Raw)] XXXXX MB (XXXXX MB free)
Unpartitioned space XXXXX MB
Unknown Disk
(There is no disk in this drive.)
Unknown Disk
(There is no disk in this drive.)
ENTER=Install D=Delete Partition F3=Quit

Important
- **A partition in which you install Windows must be created in drive "C:".**
- **When installing Windows Server 2003 R2 Edition to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.**

Tips
The server automatically restarts after copying files.
Do not remove the CD-ROM and the Flash FDD.

After this, follow the onscreen instructions to continue setup.
For details, refer to "*First Step Guide*" supplied with the OS.

Tips
When a driver is selected from the drive list, a message indicating that the driver has not passed logo testing might appear, but this does not affect the setup. Click [OK] to continue setup.

28. The server automatically restarts after installing Windows Server 2003 R2 x64 Edition.

29. The Windows Setup dialog box appears after log on.

Windows Setup
Windows Setup is not complete. We recommend that you continue Setup so that you can install the additional components that are available in this version of the Windows Server operating system.
For more information about the new components, see the documentation on Windows Server CD 2.
To continue Setup, insert Windows Server CD 2, or specify the location where the Windows Server CD 2 files are stored, and then click OK.
Location of Windows Server CD 2 files:
D:\
Browse...
OK
Cancel

Important **Be sure to install the Windows Server 2003 R2 x64 Edition DISC 2 according to the following steps even if the dialog box does not appear.**

30. Insert the Windows Server 2003 R2 x64 Edition DISC 2 into the optical disk drive.
Check the settings, and then click [OK].

31. When the installation procedure completes, remove the Windows Server 2003 R2 x64 Edition DISC 2 from the optical disk drive and then restart the server.

32. Install Starter Pack by referring to *Chapter 1 (5.3 Installing Starter Pack (Service Pack))*.

33. Install drivers and specify detailed settings by referring to *Chapter 1 (5.4 Setting Up Device Drivers)*.

34. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.

35. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems)*.

Setup with OS standard installer is now complete.

5.3 Installing Starter Pack

After installing Windows Server 2003 R2 x64 Edition, follow the steps below to install Starter Pack and Windows x64 hotfix: KB921411.

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

Important

- **Also install Starter Pack and Windows x64 hotfix: KB921411 in the following cases:**
  - **The system configurations have changed (when internal option devices have been added or removed)**
    If a dialog box prompting you to restart appears after changing system configurations, click [No] and then update the system.
  - **If the system was restored using a restore process**
  - **If a system has been restored using the backup tool**
- **Be sure to install Service Pack 2 (CD-ROM) from Starter Pack.**
- **If you used a Windows Server 2003 x64 Edition CD-ROM including Service Pack 2 for installation, you do not have to install Service Pack 2 again.**

Note

Before applying a Service Pack, make sure that **Windows Server 2003 R2** is displayed in the system properties window.

Tips

If you used the Windows Server 2003 x64 Edition CD-ROM including Service Pack 2 for installation, you do not have to install Windows x64 hotfix: KB921411 again.

Install Starter Pack after applying Windows x64 hotfix: KB921411.

If Windows Server 2003 R2 x64 Edition is operated in the following environment, the system might halt while returning from the hibernation state:

- The system is in a multi-processor configuration
- Service Pack 2 has not been installed

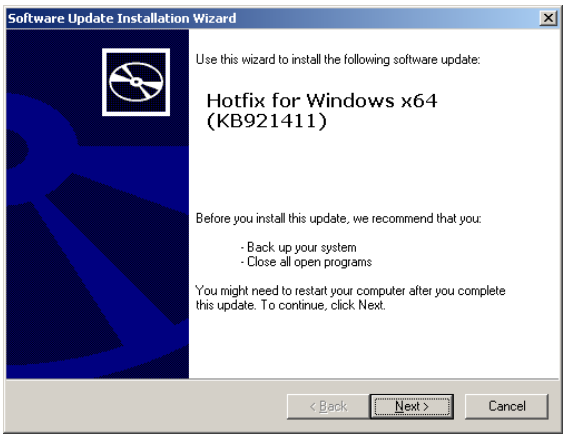
To set hibernation, apply Service Pack 2 or KB902839 hotfix*.

* KB902839 can be obtained from the following website:
  http://support.microsoft.com/kb/902839/en-us

5.3.1 Procedures for applying Starter Pack and Windows x64 hotfix (KB) 921411

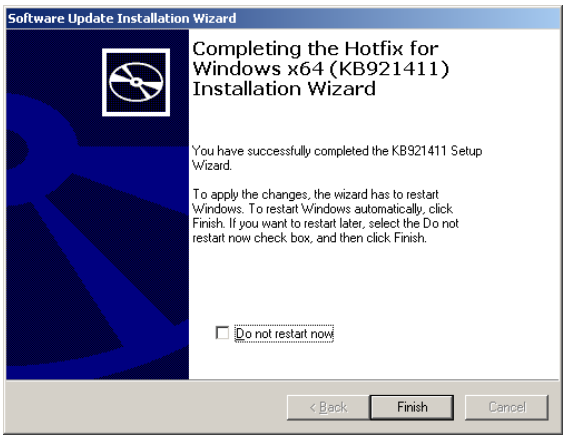
(1) When using EXPRESSBUILDER DVD

1. Log on to the system with a user account that has administrative privileges (such as Administrator).
2. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If you installed the Windows Server 2003 with Service Pack 2, go to step 9.
3. When the menu appears automatically, close it.
4. Select **Run** from the **Start** menu, and then execute the following command:
   Optical disk drive:\021\win\winnt\w2k3amd\qfe\enu\kb921411.exe
5. When the following message appears, click [Next].


Software Update Installation Wizard
Use this wizard to install the following software update:
Hotfix for Windows x64 (KB921411)
Before you install this update, we recommend that you:
- Back up your system
- Close all open programs
You might need to restart your computer after you complete this update. To continue, click Next.
< Back
Next >
Cancel

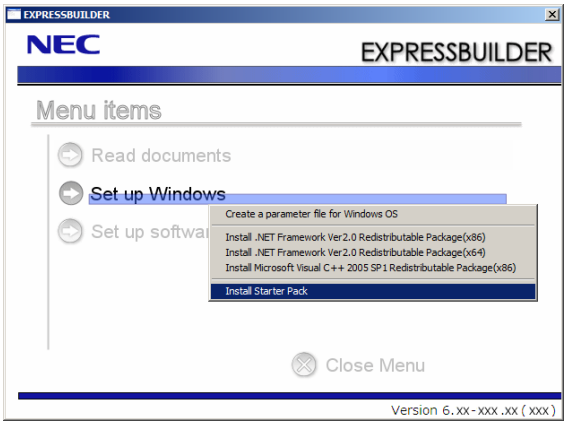
After this, continue installation according to the onscreen messages.

6. When the following message appears, click [Finish] and remove EXPRESSBUILDER DVD before restarting.

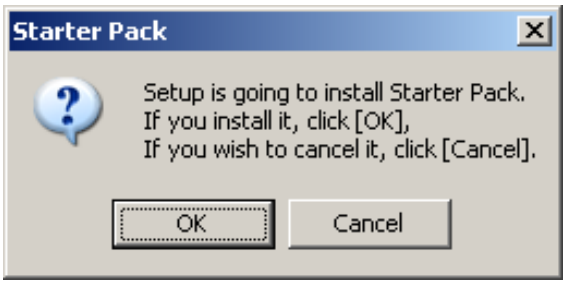

Software Update Installation Wizard
Completing the Hotfix for Windows x64 (KB921411) Installation Wizard
You have successfully completed the KB921411 Setup Wizard.
To apply the changes, the wizard has to restart Windows. To restart Windows automatically, click Finish. If you want to restart later, select the Do not restart now check box, and then click Finish.
Do not restart now
< Back
Finish
Cancel

7. Log on to the system with a user account that has administrative privileges (such as Administrator).
8. Insert EXPRESSBUILDER DVD into the optical disk drive.

9. When the following menu appears, click **Setup Windows** to open the short-cut menu, and then select **Install Starter Pack**.



10. Read the setup message, and then click [OK].


Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
OK
Cancel

Tips Wait until the message appears without attempting any further operation. This may take several minutes.

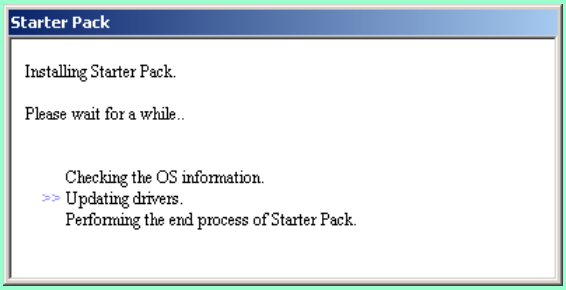
Starter Pack installation starts.

Important **The dialog box shown below might appear while installing Starter Pack, but this does not affect the installation. This dialog box disappears after several seconds. Do not click [Cancel].**

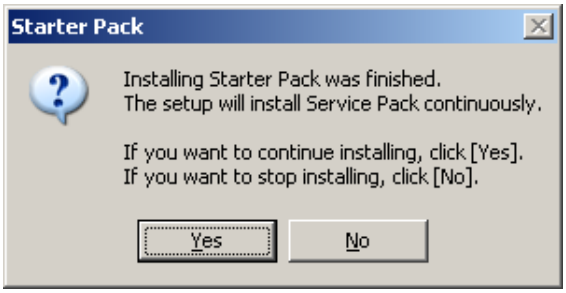
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Note

The following progress message will appear while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

11. When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup will install Service Pack continuously.
If you want to continue installing, click [Yes].
If you want to stop installing, click [No].
Yes
No

To apply the Service Pack, click [Yes] and go to step 12.

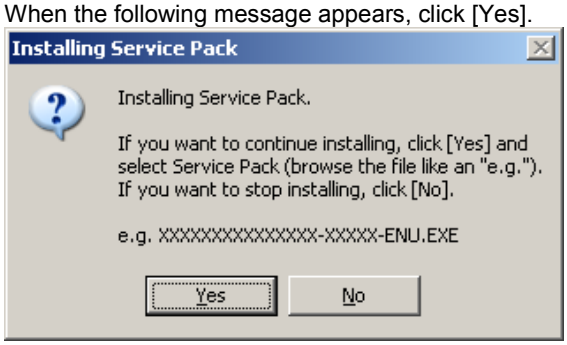
To not apply the Service Pack, click [No] and go to step 14.

Important

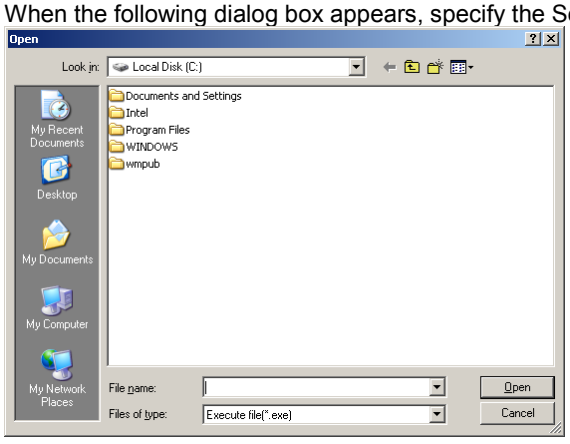
If you are using OS installation media that does not contain Service Pack 2, click [Yes]. You must apply Service Pack 2.

If Starter Pack is being reinstalled in an environment where Service Pack 2 has already been installed, you do not need to reinstall Service Pack 2.

12. When the following message appears, click [Yes].


Installing Service Pack
Installing Service Pack.
If you want to continue installing, click [Yes] and select Service Pack (browse the file like an "e.g.").
If you want to stop installing, click [No].
e.g. XXXXXXXXXXXXXXX-XXXXX-ENU.EXE
Yes
No

13. When the following dialog box appears, specify the Service Pack to apply and then click [Open].

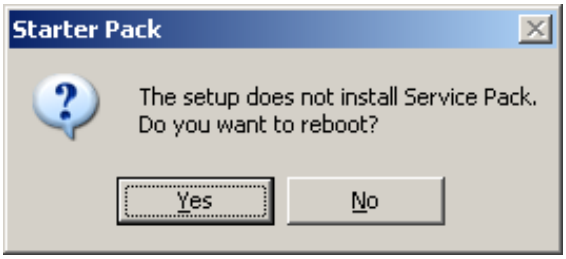


Tips

- If you use a Service Pack CD-ROM, when the dialog box above appears, remove EXPRESSBUILDER DVD from the optical disk drive and then insert the Service Pack CD-ROM.
- The extension of the Service Pack applicable to Starter Pack is `*.exe` or `*.msu`. No other Service Pack files can be installed.

Installation of the specified Service Pack starts.
When the Service Pack installation completion window appears, restart the system.

14. When the following message prompts you to restart the server , click [Yes] and remove media from the optical disk drive before restarting.



Installation of Starter Pack is now complete.

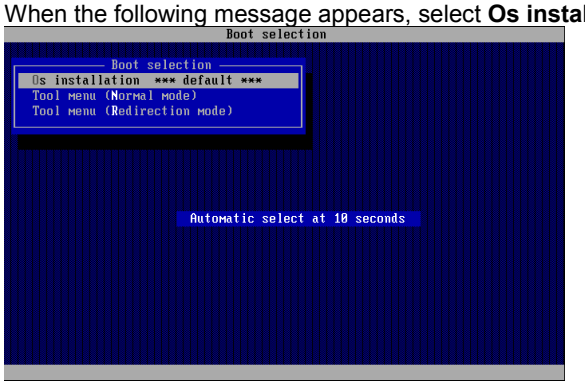
(2) When using Internal Flash Memory (Required only when optional "Internal Flash Memory" is installed)

1. After installing the operating system, restart the server.
2. When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.

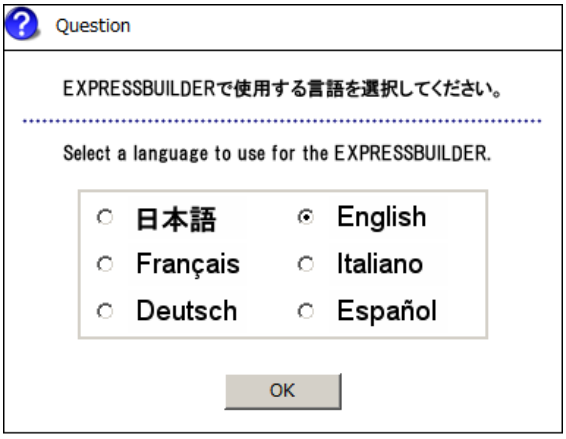
Note

- Be sure to remove bootable media from the optical disk drive.

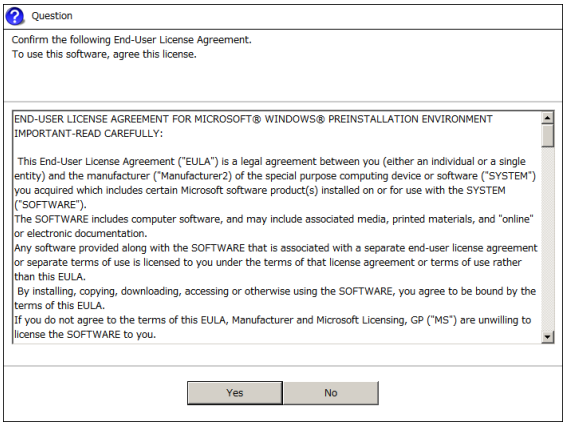
3. When the following message appears, select **Os installation *** default ***.



4. Select **English** on the language selection menu, and then click [OK].

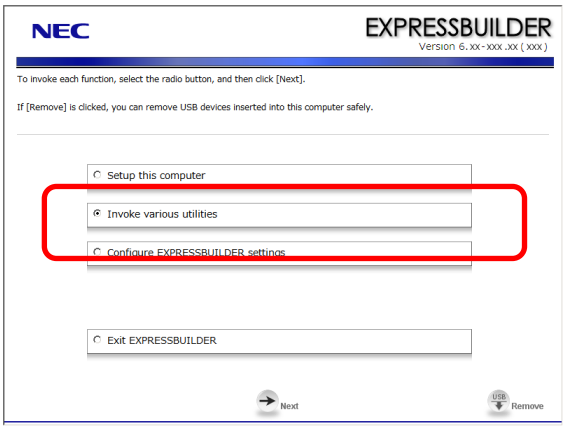


5. When the Windows PE software license agreement window appears, click [Yes].

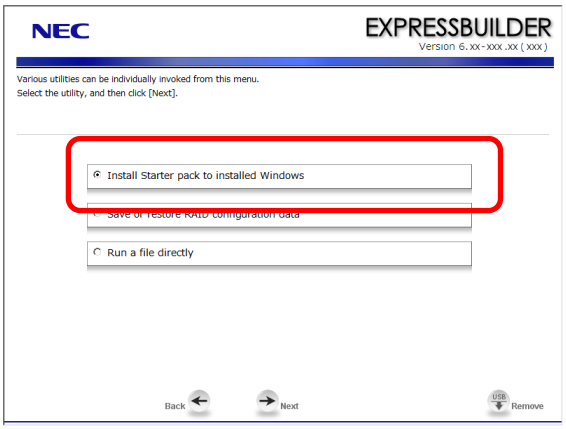

Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

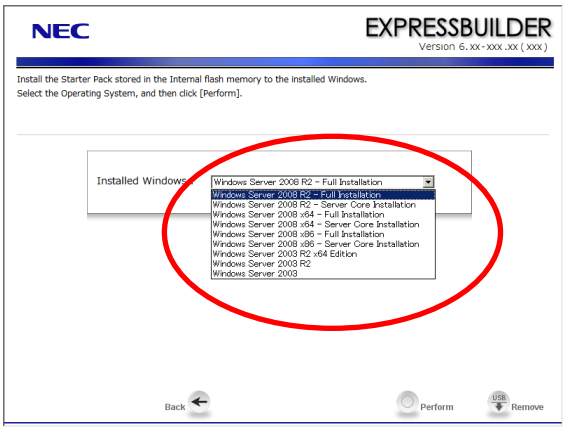
6. Select **Invoke various utilities** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

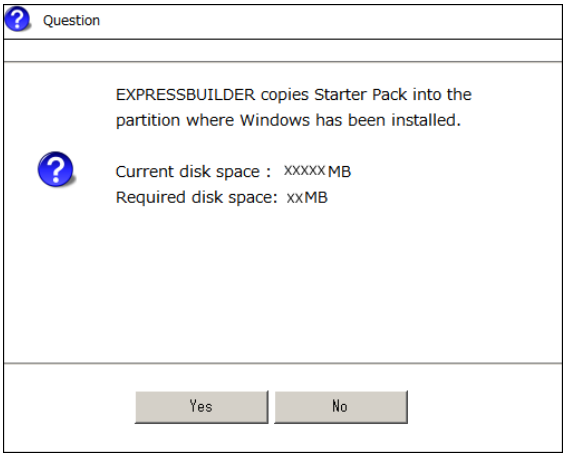
7. Select **Install Starter Pack to installed Windows** and then click [Next].



8. Select the installed Windows from the drop-down list, and then click [Perform].

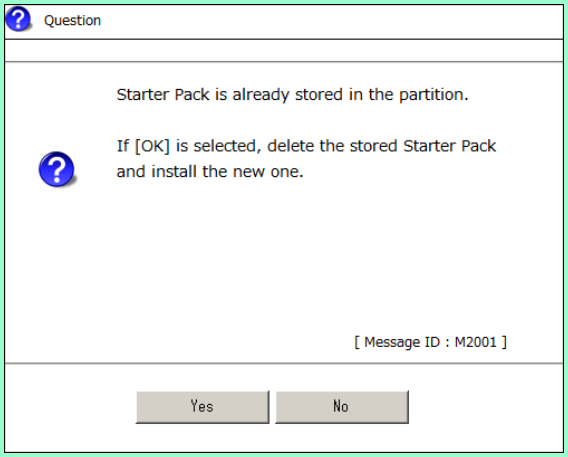

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
Install the Starter Pack stored in the Internal flash memory to the installed Windows.
Select the Operating System, and then click [Perform].
Installed Windows:
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Server Core Installation
Windows Server 2008 x64 - Full Installation
Windows Server 2008 x64 - Server Core Installation
Windows Server 2008 x86 - Full Installation
Windows Server 2008 x86 - Server Core Installation
Windows Server 2003 R2 x64 Edition
Windows Server 2003 R2
Windows Server 2003
Back
Perform
Remove

9. Read the message and then click [Yes].

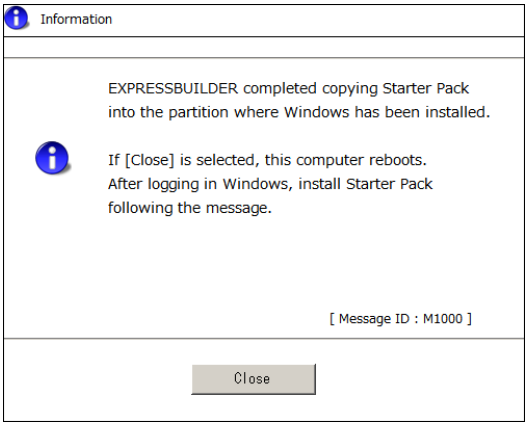

Question
EXPRESSBUILDER copies Starter Pack into the partition where Windows has been installed.
Current disk space : XXXXX MB
Required disk space: XX MB
Yes
No

Note

The following window will appear if Starter Pack is already installed.
Read the message, and then click [Yes].


Question
Starter Pack is already stored in the partition.
If [OK] is selected, delete the stored Starter Pack and install the new one.
[Message ID : M2001]
Yes
No

10. After copying the files, the following window appears. Click [Close].


Information
EXPRESSBUILDER completed copying Starter Pack into the partition where Windows has been installed.
If [Close] is selected, this computer reboots. After logging in Windows, install Starter Pack following the message.
[Message ID : M1000]
Close

The server restarts.

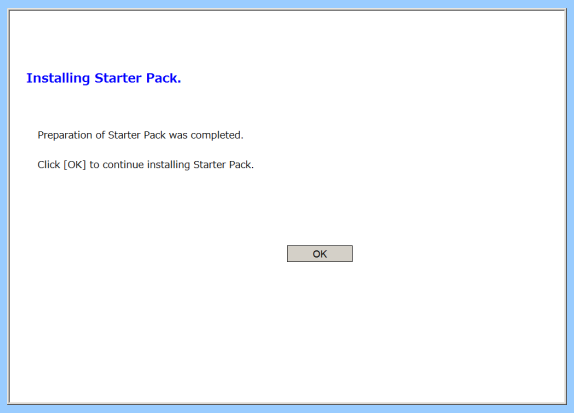
Note

You do not need to press <F3> key at this time.

11. Log on to the system with a user account that has administrative privileges (such as Administrator).

Important

The screen as shown below appears when Windows starts. Do not click [OK] on this screen. Proceed to Step 12.

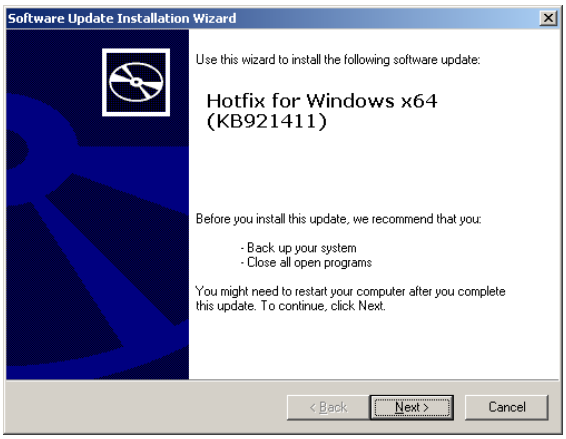


If you click [OK], "KB921411" will not be applied.
Go to Step 16, and click [Cancel] on the screen to install Starter Pack. Then, perform from Step 1 of *(2) When using Internal Flash Memory*.

If you installed the Windows Server 2003 with Service Pack 2, go to step 15.

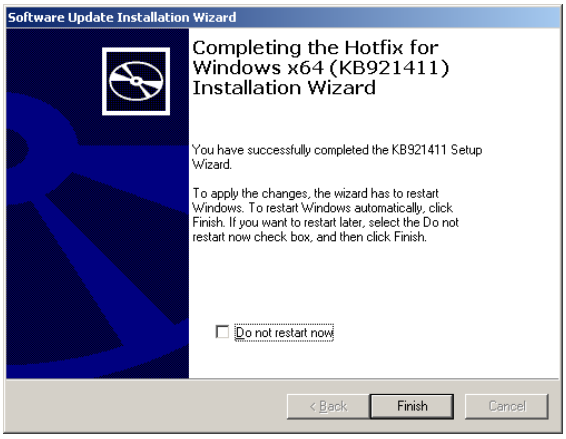
12. Select **Run** from the **Start** menu, and then execute the following command:
System drive:\StartPKG\w2k3amd\qfe\enu\kb921411.exe

13. When the following message appears, click [Next].


Software Update Installation Wizard
Use this wizard to install the following software update:
Hotfix for Windows x64 (KB921411)
Before you install this update, we recommend that you:
- Back up your system
- Close all open programs
You might need to restart your computer after you complete this update. To continue, click Next.
< Back
Next >
Cancel

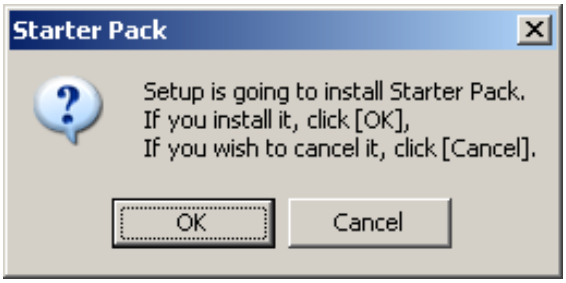
After this, continue installation according to the onscreen messages.

14. When the following message appears, click [Finish] to restart the system.


Software Update Installation Wizard
Completing the Hotfix for Windows x64 (KB921411) Installation Wizard
You have successfully completed the KB921411 Setup Wizard.
To apply the changes, the wizard has to restart Windows. To restart Windows automatically, click Finish. If you want to restart later, select the Do not restart now check box, and then click Finish.
Do not restart now
< Back
Finish
Cancel

15. After Windows starts, the following window appears. Click [OK].

16. Read the message, and then click [OK].


Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
OK
Cancel

Tips

Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

Installation of Starter Pack starts.

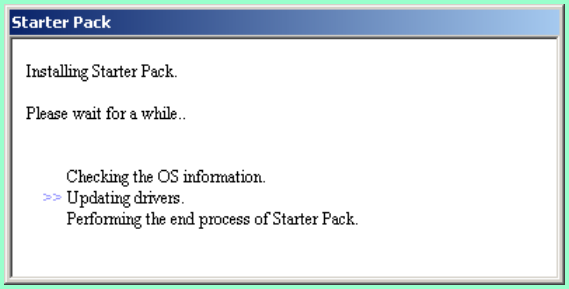
Important

The dialog box shown below might appear while installing Starter Pack, but this does not affect the installation. This dialog box disappears after several seconds. Do not click [Cancel].

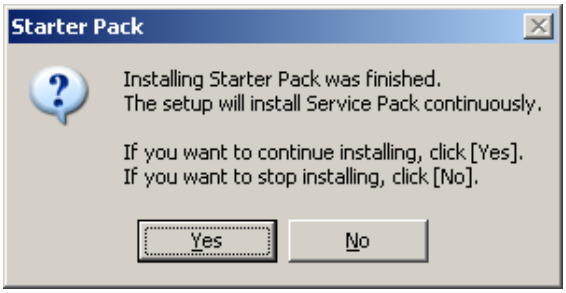
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Note

The following progress message appears while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup will install Service Pack continuously.
If you want to continue installing, click [Yes].
If you want to stop installing, click [No].
Yes
No

To apply the Service Pack, click [Yes] and go to step 17.

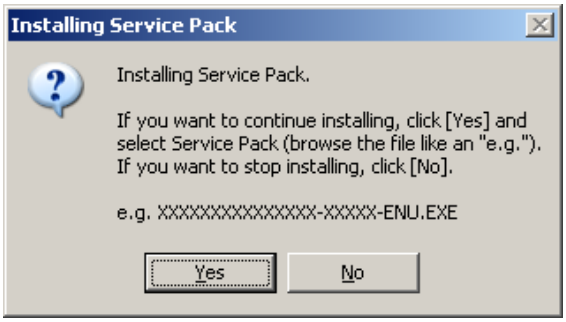
To not apply the Service Pack, click [No] and go to step 19.

Important

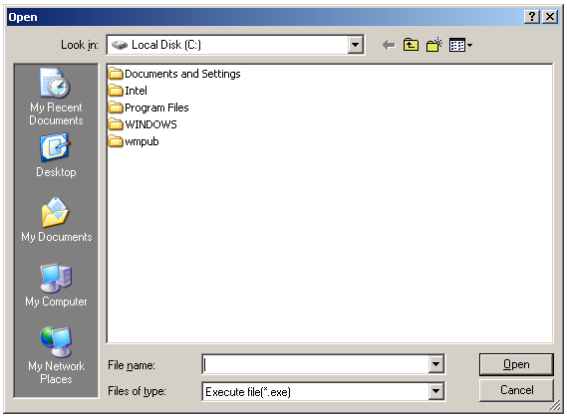
If you are using OS installation media that does not contain Service Pack 2, click [Yes]. You must apply Service Pack 2.

If Starter Pack is being reinstalled in an environment where Service Pack 2 has already been installed, you do not need to reinstall Service Pack 2.

17. When the following message appears, click [Yes].


Installing Service Pack
Installing Service Pack.
If you want to continue installing, click [Yes] and select Service Pack (browse the file like an "e.g.").
If you want to stop installing, click [No].
e.g. XXXXXXXXXXXXXXX-XXXXX-ENU.EXE
Yes
No

18. When the following dialog box appears, specify the Service Pack to install and then click [Open].

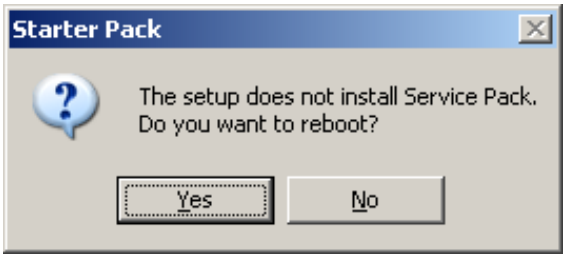


Tips

- When the window above appears, insert the Service Pack CD-ROM into the optical disk drive.
- The extension of the Service Pack applicable to Starter Pack is `*.exe` or `*.msu`. No other Service Pack files can be installed.

Installation of the specified Service Pack starts.
When the Service Pack installation completion window appears, restart the system.

19. When the following message prompts you to restart the system, click [Yes].



Installation of Starter Pack is now complete.

5.3.2 Recovery process

If Windows x64 hotfix: KB921411 is not applied before installing Starter Pack, "!" might be displayed on the USB root hub in the Device Manager window.

In this case, apply Windows x64 hotfix: KB921411 and install Starter Pack according to the procedure below.

1. Start Windows Explorer, and then select **Folder Options** from the **Tool** menu.
2. In the **Advanced settings** area on the **View** tab, select the **Show hidden files and folders** option button for **Hidden files and folders** under **Files and Folders**.
3. Clear the following check boxes under **Files and Folders**, and then click [OK].
   - Hide extensions for known file types
   - Hide protected operating system files (recommended)

   When the message "You have chosen to display protected operating system files…" appears, click [Yes].
4. Check the files.
   Open the `drivers` folder under *`System drive`*`:\WINDOWS\system32`, and make sure that `usbhub.sys` and `usbport.sys` are stored in the folder.
   If a file is missing, copy the target file(s) according to the procedure below.
   (1) Open the `dllcache` folder under *`System drive:`*`\WINDOWS\system32`.
   (2) Copy the `usbhub.sys` and/or `usbport.sys` to the drivers folder under *`System drive:`*`\WINDOWS\system32`.
5. Restart the system.
6. Refer to *Chapter 1 (5.3.1 Procedures for applying Starter Pack and Windows x64 hotfix (KB) 921411)* to install Starter Pack.
7. Restart the system.

The recovery process is now complete.

Note If the system files and hidden files still do not display, select the check boxes that were cleared in step 3.

5.4 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.
For details regarding the installation and setup of an optional device driver, refer to the manual supplied with the optional device.

5.4.1 Installing the LAN and BACS (teaming) drivers

(1) LAN and BACS drivers

If the OS standard installer is used for setup, install Starter Pack to install the LAN and BACS driver.

Important

- **To use the BACS, Microsoft .NET Framework Version 2.0 must be installed. To install Microsoft .NET Framework 2.0, insert EXPRESSBUILDER DVD to the optical disk drive, select *Setup Windows* and then *Install the .NET Framework Ver2.0 Redistributable Package(x64)* from the autorun menu.**
- **WOL is supported by the standard network adapters only.**

Note

- To change the LAN or BACS driver settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.
- Be sure to select the **Internet Protocol (TCP/IP)** check box when specifying an IP address.

(2) Optional LAN board / Riser Card

This server supports the following optional LAN boards / Riser Card.
The drivers for LAN boards / Riser Card are automatically installed using the OS plug-and-play function.

Optional LAN boards: N8104-132/138

Optional Riser Card: N8104-135

If [! Ethernet Controller] is displayed in Device Manager after LAN card or riser card has been installed, you need to install the driver in the following procedure.

1. Set EXPRESSBUILDER DVD in optical disk drive.

   When the Autorun menu appears, close the window.

   Tips

   If you apply Starter Pack from Internal Flash Memory, you do not need to set EXPRESSBUILDER DVD.

2. Launch **Device Manager**, and double-click [! Ethernet Controller].

   The [Ethernet Controller Properties] appears.

3. Click [Update Driver] in [Driver] tab.

   [Hardware Update Wizard] appears.

4. Select [No, do not connect now.], and click [Next].

5. Select [Install from a list or specific location], and click [Next].

6. Select [Search for the best driver in these locations], and [Include this location in the search]. Enter the following location and click [Next].

   ● **When using EXPRESSBUILDER DVD:**

   Optical disk drive: \021\win\winnt\w2k3amd\lan\bcom\drvinst\14060401\x64\win2003\x64

   ● **When applying Starter Pack from Internal Flash Memory:**

   System drive: \StartPKG\w2k3amd\lan\bcom\drvinst\14060401\x64\win2003\x64

   Note Be sure to uncheck the [Search removable media (floppy, CD-ROM...)] check box, if checked.

7. Click [Finish].
8. When you have applied LAN driver to every [! Ethernet Controller], remove EXPRESSBUILDER DVD from the optical disk drive, and restart the system.

Installing Starter Pack now completes.

Important **[! Ethernet Controller] may not be displayed in Device Manager after LAN card or riser card has been installed. In such a case, the LAN driver is installed automatically. Make sure that the network adapter name for LAN card/riser card is found on [(Network Adapter Name)] under [Network Adapters] tab.**

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration
Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:
[N8104-132/138] Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional Riser Card:
[N8104-135] Broadcom NetXtreme Gigabit Ethernet #xx*

* If there are adapters with the same name, a different identification number will be assigned to *xx*.

5.4.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

1. Open the **Device Manager**.
2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
3. Select the **Advanced** tab, and then set the **Speed & Duplex** values to the same as those of the switching hub.
4. Click [OK] in the Network Adapter Properties dialog box.
5. Restart the system.

Network adapter setup is now complete.

5.4.3 Setting up team/LiveLink

Note

- You must set up LiveLink when setting up a team. Teams that are not configured for LiveLink are not supported.
- When deleting the team, refer to *Chapter 1 (5.4.3 Setting up team/LiveLink) - (4) Procedure for deleting team*. When replacing the motherboard or a LAN board, follow these steps to remove the team and create it again after replacement.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team

(1) Team types

The following team types are supported.

- Smart Load Balancing and Failover (without Standby Member)
  All adapters that compose the team perform communication.
  If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.
  When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.
- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)
  Among the adapters that compose the team, primary adapters except the standby member perform communication.
  If a communication failure occurs, the standby member continues the communication.
  When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters.
It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.
If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

Note

You must set up LiveLink when you create a team.

(3) Setting up team/LiveLink

Note

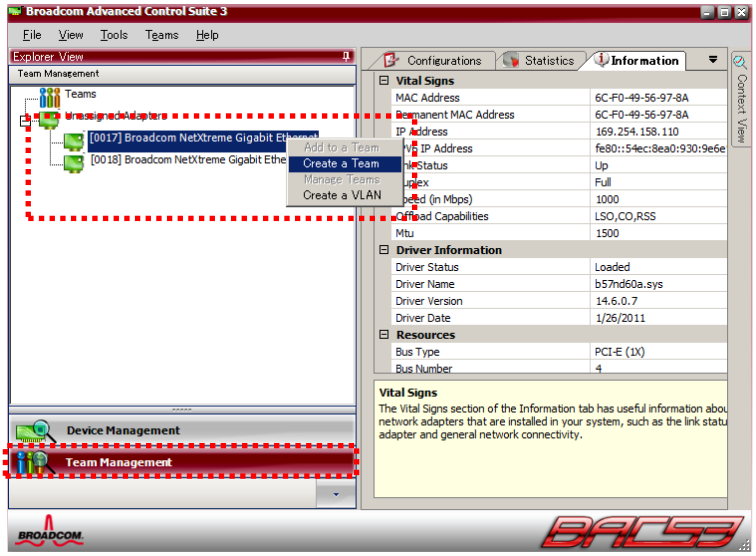
- The team must be composed of two adapters.
- Possible combinations of network adapters that compose the team are as follows.
  - Between standard network adapters.
  - Between LAN boards and Riser Card.
  - A standard network adapter and LAN boards / Riser Card

Tips

To edit a team, right-click on the BACS team, and then select **Edit TEAM**.

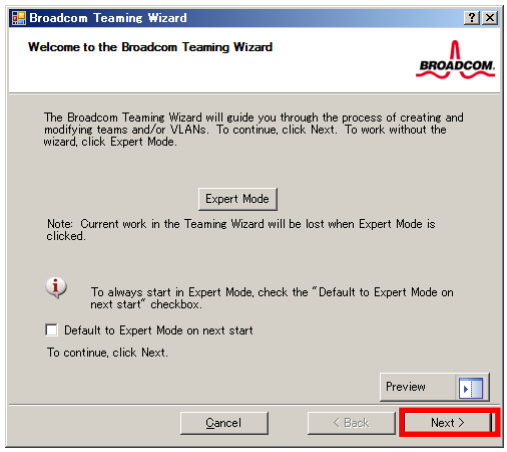
Then refer to step 3 and later in *Chapter 1 (5.4.3 Setting up team/LiveLink) - (3) Setting up team/LiveLink* to edit the team.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Select **Team Management** from the left menu, right-click the adapter to be used for the team, and then select **Create a Team** from the short-cut menu.



The **Broadcom Teaming wizard** appears.

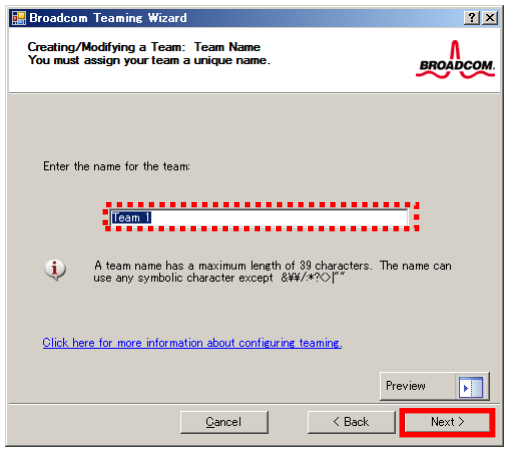
3. Click [Next].


Broadcom Teaming Wizard
Welcome to the Broadcom Teaming Wizard
BROADCOM.
The Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs. To continue, click Next. To work without the wizard, click Expert Mode.
Expert Mode
Note: Current work in the Teaming Wizard will be lost when Expert Mode is clicked.
To always start in Expert Mode, check the "Default to Expert Mode on next start" checkbox.
Default to Expert Mode on next start
To continue, click Next.
Preview
Cancel
< Back
Next >

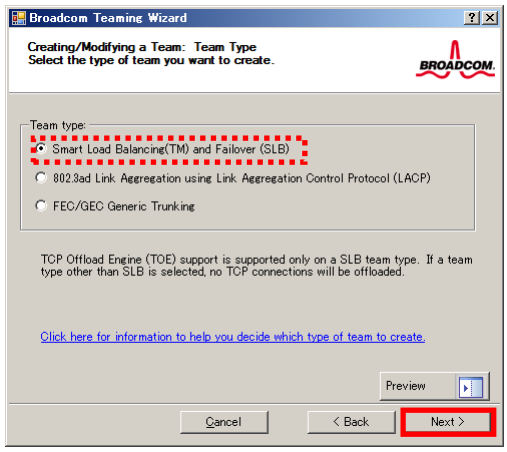
Note

Do not use Expert Mode.

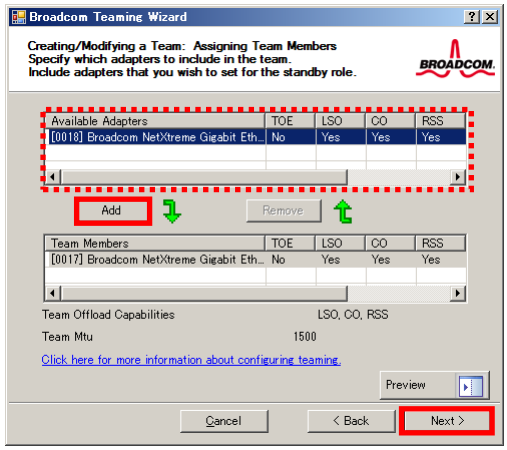
4. Enter any name into the team name entry column, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Name
You must assign your team a unique name.
BROADCOM.
Enter the name for the team:
Team 1
A team name has a maximum length of 39 characters. The name can use any symbolic character except &¥¥/*?<>|'"
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

5. Make sure that the following team type is selected, and then click [Next].
Team type: Smart Load Balancing (TM) and Failover (SLB)


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Type
Select the type of team you want to create.
BROADCOM.
Team type:
Smart Load Balancing(TM) and Failover (SLB)
802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP)
FEC/GEC Generic Trunking
TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team type other than SLB is selected, no TCP connections will be offloaded.
Click here for information to help you decide which type of team to create.
Preview
Cancel
< Back
Next >

6. Select the adapters that compose the team, click [Add] to add them to the **Team Members** area, and then click [Next].

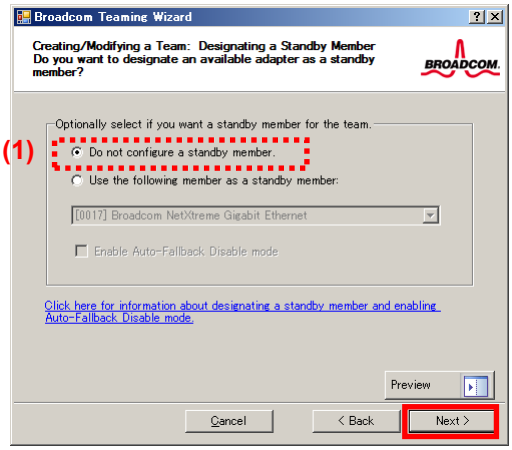


7. Proceed according to your desired team type.

– Smart Load Balancing and Failover (without Standby Member)

(1) Select **Do not configure a standby member**.

(2) Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
(1)
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Fallback Disable mode
Click here for information about designating a standby member and enabling Auto-Fallback Disable mode.
Preview
Cancel
< Back
Next >
(2)

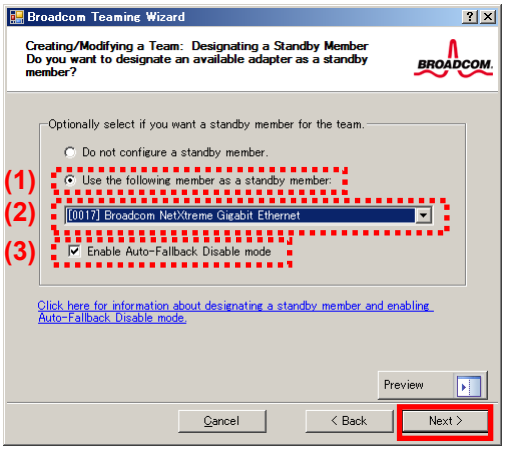
– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

(1) Select **Use the following member as a standby member**.

(2) Select the adapter that is to be a standby member from the drop-down list.

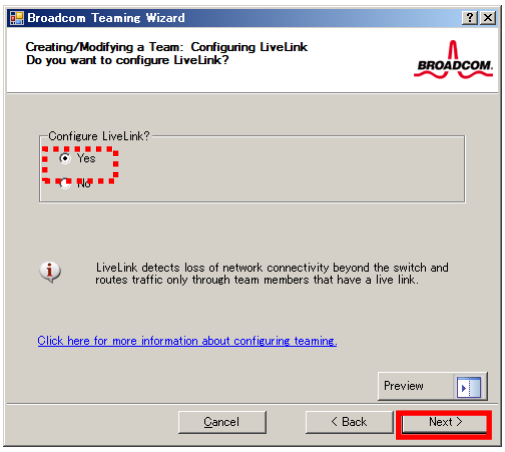
(3) Select **Enable Auto-Failback Disable mode**.

(4) Click [Next].

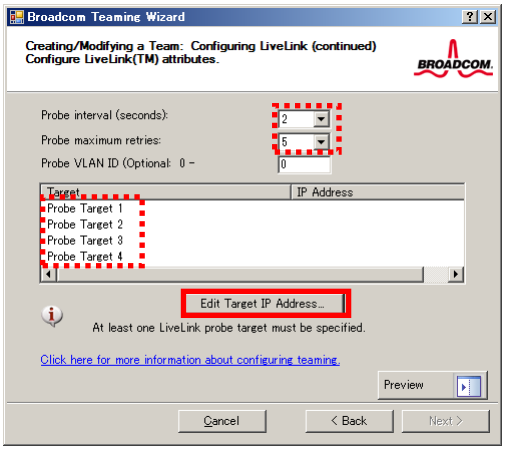

Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Failback Disable mode
(1)
(2)
(3)
Click here for information about designating a standby member and enabling Auto-Failback Disable mode.
Preview
Cancel
< Back
Next >
(4)

Note *Enable Auto-Failback Disable mode* is cleared while editing the team. Select it again.

8. Select **Yes** for **Configure LiveLink?**, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink
Do you want to configure LiveLink?
BROADCOM.
Configure LiveLink?
Yes
No
LiveLink detects loss of network connectivity beyond the switch and routes traffic only through team members that have a live link.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

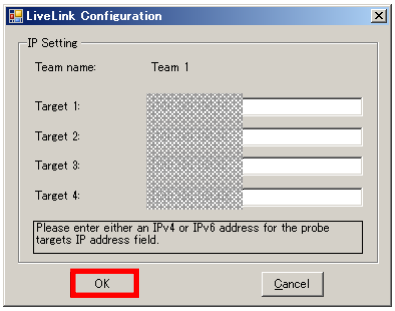
9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target *xx***), and then click [Edit Target IP Address…].



Tips

- The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds).
- The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times).
- Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.
  If an optional LAN board detects that a link is down, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down.

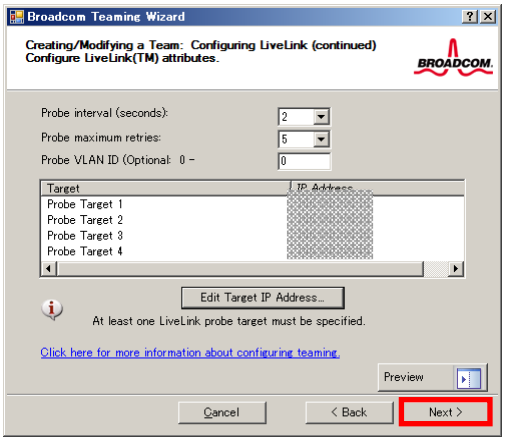
10. In the **Target *xx*** text box, enter the IP address of the alive monitoring server, and then click [OK].



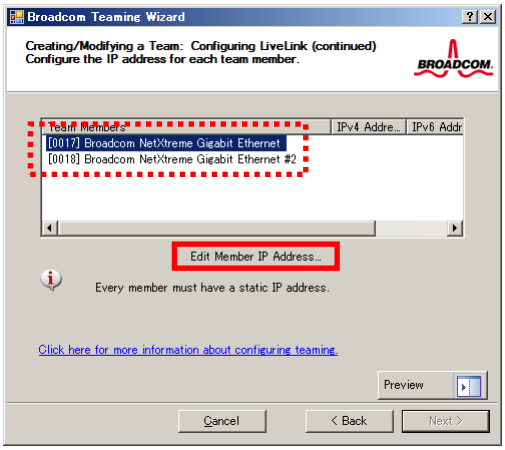
Note

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

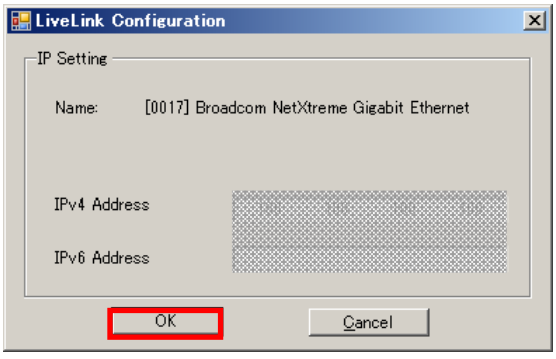
11. Click [Next].



12. Select an adapter from the **Team Members** area, and then click [Edit Member IP Address…].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Addre...
IPv6 Addr
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

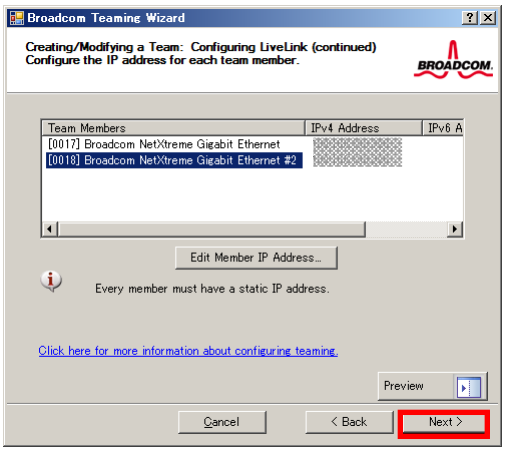
13. Enter the IP address used for LiveLink communication, and then click [OK].



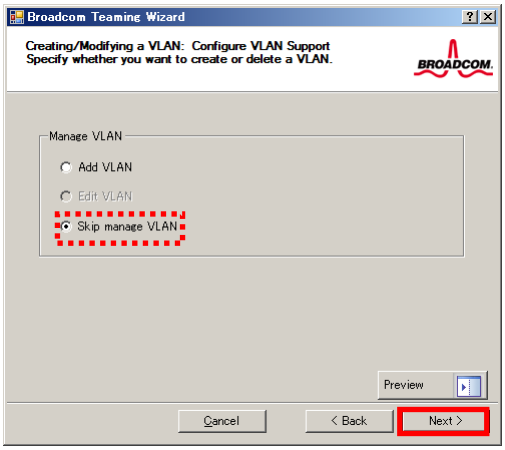
Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

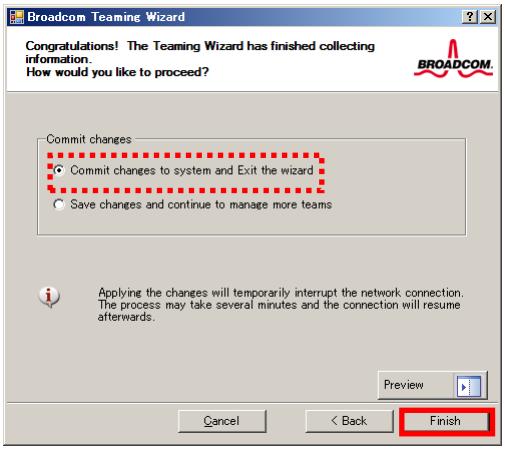
14. Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Address
IPv6 A
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click [Next].



16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click [Finish].


Broadcom Teaming Wizard
Congratulations! The Teaming Wizard has finished collecting information.
How would you like to proceed?
BROADCOM.
Commit changes
Commit changes to system and Exit the wizard
Save changes and continue to manage more teams
Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards.
Preview
Cancel
< Back
Finish

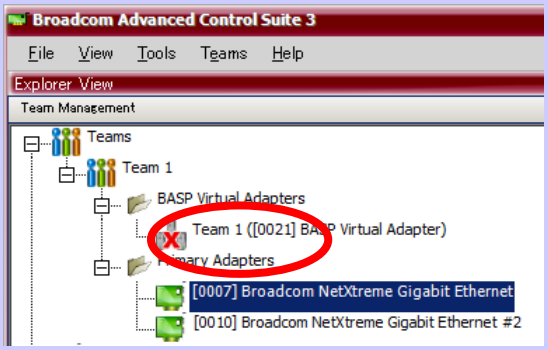
Note

When the message below appears, select [Yes].

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?"

Tips

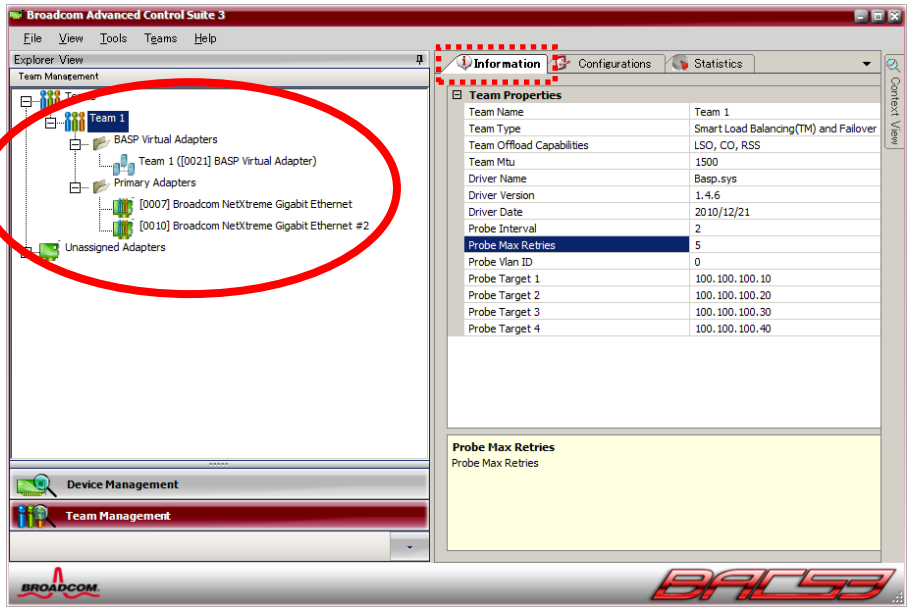
After creating a team, if the teaming adapter displays like the following image, perform steps 8 through 14 again and correct the LiveLink settings.



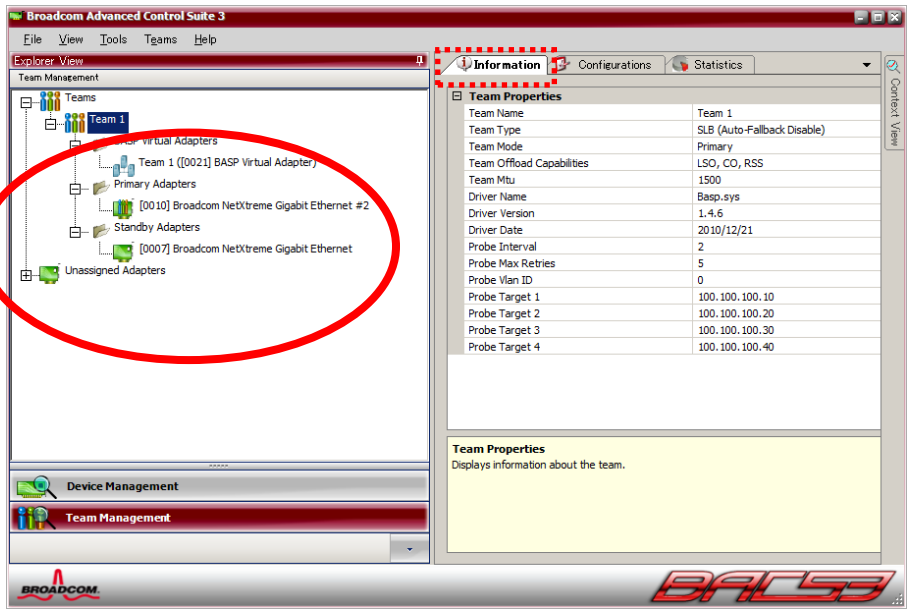
17. Restart the system.

18. After the system starts, follow step 1 to start **Broadcom Control Suite3** and confirm that a team has been created. Confirm the team settings on the **Information** window to the right.

– Smart Load Balancing and Failover (without Standby Member)



– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)



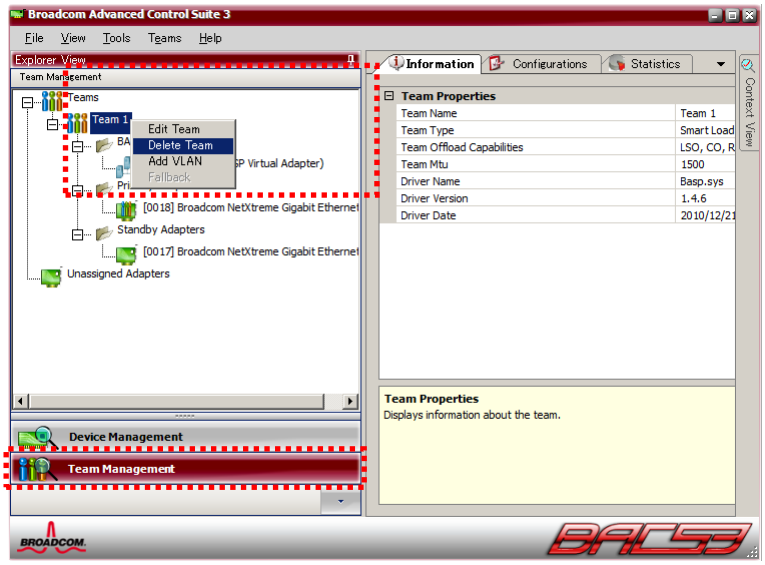
Team setup is now complete.

(4) Procedure for deleting team

Note

You must delete teams from Broadcom Control Suite3.
You cannot delete the team from the team adapter displayed in the Device Manager.

1. Double-click **Broadcom Control Suite3** in the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Click **Team Management** from the left menu, right-click the team name under **Teams**, and then select **Delete Team** from the short-cut menu.



Tips

When the message below appears, select [Yes].

"The selected team will be deleted from system, do you want to proceed?

NOTE: Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards."

3. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If an autorun menu appears, close the menu window.

Important

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

4. Double-click `addlvlanstats.vbs` in the following folder.
   - When using EXPRESSBUILDER DVD:
     Optical disk drive:\021\win\winnt\w2k3amd\lan
   - If Starter Pack was installed from Internal Flash Memory:
     System drive:\StartPKG\w2k3amd\lan

5. When the following message appears, click [OK].

6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

5.4.4 When using a SCSI controller (N8103-107)

The driver for SCSI controller is installed when you apply "Starter Pack".

5.4.5 When using a SAS controller (N8103-104A/142)

The driver for SAS controller is installed when you apply "Starter Pack".

5.4.6 When using a RAID Controller (N8103-160)

The driver for RAID Controller is installed when you apply "Starter Pack". Note, however, If RAID Controller (N8103-149/150/151/160) is already used, the driver is automatically installed.

5.4.7 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If an autorun menu appears, close the menu window.

   Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

2. From the **Start** menu, point to **All programs**, **Accessories**, and then select **Explorer**.
3. Double-click the **install.bat** icon in the following folder.

   When using EXPRESSBUILDER DVD:
   Optical disk drive:\021\win\winnt\w2k3amd\video

   If Starter Pack was installed from Internal Flash Memory:
   System drive:\StartPKG\w2k3amd\video

   You will be prompted to confirm the End User License Agreement during this process. Click the [ACCEPT] button and continue.
4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Graphic accelerator driver installation is now complete.

5.5 Installing the Bundled Software

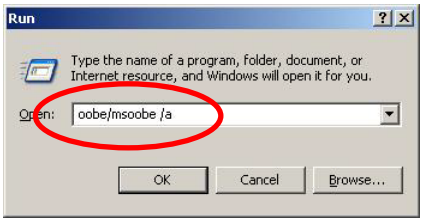
The supplied EXPRESSBUILDER DVD contains the server monitoring software NEC ESMPRO Agent and system management software NEC ESMPRO Manager. Refer to *Chapter 2 Installing the Bundled Software* to install the software separately.

5.6 License Authentication

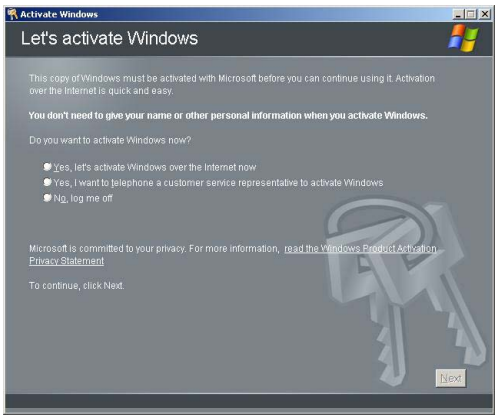
To use Windows Server 2003 R2 x64 Edition, the license must be authenticated in advance. Following describes the license authentication procedure.

Tips Following this procedure is not required if you use Backup CD-ROM for installation.

1. Select **Run** from the **Start** menu.
   Enter the following to the **Open** text box, and then click [OK].
   `oobe/msoobe /a`



2. When the following message appears, click [Next].


Activate Windows
Let's activate Windows
This copy of Windows must be activated with Microsoft before you can continue using it. Activation over the Internet is quick and easy.
You don't need to give your name or other personal information when you activate Windows.
Do you want to activate Windows now?
Yes, let's activate Windows over the Internet now
Yes, I want to telephone a customer service representative to activate Windows
No, log me off
Microsoft is committed to your privacy. For more information, read the Windows Product Activation Privacy Statement
To continue, click Next.
Next

   The following message appears.

3. Follow the instructions in the following message to start the license authentication process.

Activate Windows
Activate Windows by phone
Just four steps, and you're done...
Step 1: Select your location
Step 2: Call a number below to speak with a customer service representative:
Toll-free number:
Toll number:
Step 3: Provide the customer service representative with the following installation ID:
000000-000000-000000-000000-000000-000000-000000-000000-000000
(Click Change product key only if requested to do so by the customer service representative)
Step 4: Type the confirmation ID that the customer service representative gave you.
A B C D E F G
To continue, click Next.
Back
Change Product key
Remind Me Later
Next

Windows activation is now complete.

5.7 Installation When Multiple Logical Drives Exist

Before starting installation, backup data for future use in case of data loss.

(1) Installation process

1. Follow the steps to start installation with OS standard installer.
2. When the following message appears, select the partition to which you want to set up the operating system.

```
The following list shows the existing partitions and
unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the
list.
```

Important **You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this window are correct, and then proceed with setup.**

3. Follow the steps to proceed with installation with OS standard installer.

Tips The drive letter might change after installation. If you want to change the drive letter, use the procedure shown in *Changing drive letter assignments* below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

1. From the **Start** menu, right-click **My Computer** and then select **Management**. Next, launch **Computer Management**.
2. From the window on the left, select **Disk Management**.
3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
4. Click [Change].
5. Click [Assign next drive letter], and then select the drive letter you want to assign.
6. Click [OK].
7. When the following message appears, read the contents and then click [OK].

```
Changing the drive letter of a volume might cause programs
to no longer run. Are you sure you want to change this drive
letter?
```

8. Close the Computer Management window.

6. Setting Up Windows Server 2003

Set up Windows Server 2003 and the system.

6.1 Before Starting Setup

Read through the cautions explained here before starting setup.

EB: Confirm during Setup with EXPRESSBUILDER

OS: Confirm during Setup with OS standard installer

(1/3)

Setup		Items to confirm	
EB	OS	Windows family	The following editions of the Windows Server 2003 family may be installed. • Windows Server 2003 R2 Standard Edition • Windows Server 2003 R2 Enterprise Edition Inquiries about installing other editions may be made at your sales dealer or maintenance service company. For information about Service Packs, refer to *1.3 Service Pack Support*. **Note** **Setup with EXPRESSBUILDER cannot be used.**
EB	OS	License authentication	If Windows Server 2003 is installed from a backup CD, the license is already activated. If Windows Server 2003 is installed from an OS CD instead of a backup CD, a product key is required for license authentication. At this time, the product key must be the same as that indicated on the COA label of Windows Server 2003. For details, refer to *Chapter 1 (6.7 License Authentication)*. **Important** **Activate within 30 days following installation. The system might be locked if 30 days have passed without activation.**
		Hardware configuration	The following hardware configurations require special procedures.
EB	OS		• When using OEM drivers, be sure to change the boot order of the Flash FDD on the BIOS settings as follows: Select **Boot**, **Floppy Drive BBS priorities**, **Boot Option #1**, and then specify the Flash FDD used. **Note** Change as instructed in *Chapter 1 (6.2.3 Setup procedure)*.
EB	OS		• **Notes on using N8103-149/150/151 on Windows2003:** 1) When a battery is used: The following message may appear on POST screen at reboot if Service Pack2 is not yet applied. It is not the problem. cache data recovered successfully 2) When no battery is used: - Set the cache mode of RAID Controller to the default setting (AutoSwitch or WriteThrough) until Service Pack 2 is applied. - To operate the RAID Controller in WriteBack mode, change setting to WriteBack after Service Pack 2 is applied. * The default cache mode of RAID Controller is AutoSwitch. It will not change to WriteBack mode unless it is changed manually at or after creation of VD.

(2/3)

Setup		Items to confirm	
EB	OS	Hardware configuration	• **Connecting MO devices** Installing Windows while an MO device is connected can result in installation failure. Remove the MO device, and then start installation from the beginning.
EB	OS		• **DAT, LTO, and similar media** Do not set media that is unnecessary to installation during setup.
EB	OS		• **Connecting to multiple hard disk drives (Logical Drives)** For details on reinstalling operating systems to a system in which multiple Logical Drives exist, refer to *Chapter 1 (6.8 Reinstallation When Multiple Logical Drives Exist)*.
EB	OS		• **Reinstallation to a dynamic disk:** When installing the OS on a hard disk drive with multiple partitions that was upgraded to a dynamic drive and you wish to retain the existing partition configuration and data areas, note the following: Data area (partition to be retained) - Select the partition on which the OS was previously installed. - Select **Leave the current file system intact (no change)** for the OS partition format.
EB	OS	Service Pack	If Windows Server 2003 R2 is already installed, make sure that Windows Server 2003 R2 Edition DISC 2 has been installed before applying a Service Pack.
EB	OS		Use Starter Pack when you apply a Service Pack from the Service Pack 2 CD-ROM.
EB	OS		If you used OS installation media including Service Pack 2 for installation, you do not have to install Service Pack 2 again.

(3/3)

<table>
<tr><th colspan="2">Setup</th><th>Items to confirm</th><th></th></tr>
<tr><td>EB</td><td>OS</td><td>System partition size</td><td>The system partition size can be calculated by using the following formula.
Size required to install the OS + paging file size + dump file size + application size
Size required to install the OS = 3,500 MB (Windows Server 2003 R2 with Service Pack 2)
= 5,300 MB (Windows Server 2003 R2 + Service Pack 2)
Paging file size (recommended) = installed memory size × 1.5
Dump file size = installed memory size + 12 MB
Application size = as required by the application

For example, if the installed memory size is 1 GB (1,024 MB), the partition size is calculated as follows:
3,500 MB + (1,024 MB × 1.5) + 1,024 MB + 12 MB + application size = 6,072 MB + application size

Note
• The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure you set a sufficient paging file size. If the paging file is insufficient, there will be a virtual memory shortage that may result in an inability to collect correct debug information.
• The maximum paging file size that can be specified for one partition is 4095 MB. If 1.5 times of the mounted memory size exceeds 4095 MB, specify 4095 MB.
• If the mounted memory size is 2 GB or greater, the maximum size of the dump file is “2048 MB + 12 MB”.
• When installing other applications or other items, add the amount of space needed by the application to the partition.

If the partition size for installing the system is smaller than the size required for installation + paging file size, expand the partition size or add another disk. If your system does not have a sufficient dump file size, divide the required file space into multiple disks by performing the following steps.
1. Set the system partition size to a size sufficient to install the OS and paging file.
2. Write the debug information of the dump file onto another disk by referring to 7. Setup for Solving Problems.
If there is not enough disk space to write the debug information, set the partition size to a size sufficient to install the OS and paging file, and then add another disk for the dump file.</td></tr>
<tr><td>–</td><td>OS</td><td>Setup with OS standard installer</td><td>Dialog boxes might appear several times during installation, but it does not affect system installation. Click [Yes] on such dialog boxes, and continue installation according to the displayed messages.</td></tr>
<tr><td>EB</td><td>OS</td><td>Upgrade to Windows Server 2003 R2</td><td>In-place upgrade from Windows Server 2003 to Windows Server 2003 R2 is not recommended because it overwrites the files and registries and might cause an unexpected effect on the system and applications.
If you want to use Windows Server 2003 R2, back up the necessary data before installing Windows Server 2003 R2.

Tips
In-place upgrade refers to overwriting an existing OS (in this case, Windows 2003) with another OS (Windows Server 2003 R2).</td></tr>
</table>

6.2 Setup with EXPRESSBUILDER

This section describes how to install Windows with EXPRESSBUILDER.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide* ".

Important

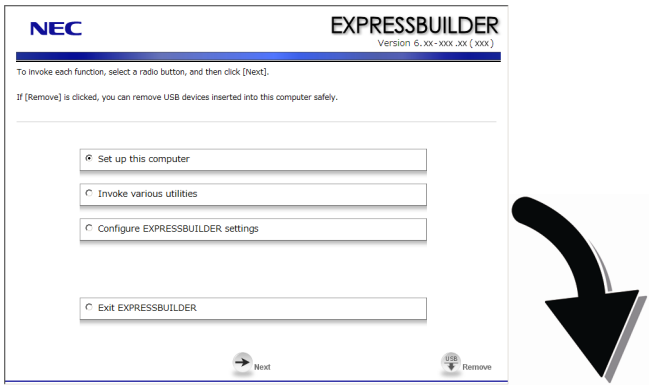
- **Setup with EXPRESSBUILDER may delete all data in the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:**
  - **RAID settings wizard**
  - **Partition Settings in the Windows Setup wizard**

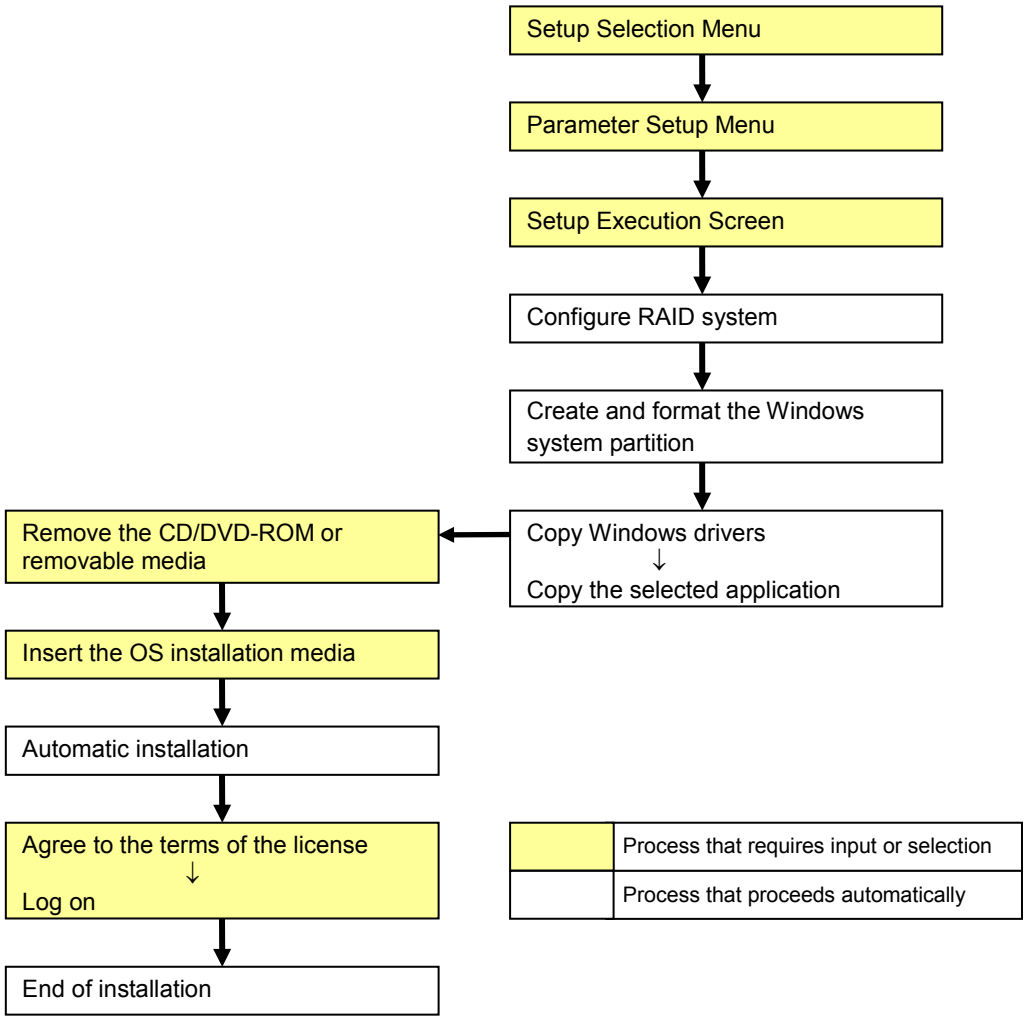
  Backing up user data, as needed, is recommended.
- **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally. It is recommended to make backup copy of user data before starting setup.**

Tips

- Setup with EXPRESSBUILDER allows you to use a prespecified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *Chapter 1* (*8 Windows OS Parameter File)*.

6.2.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



6.2.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Either of the following OS installation media
  - **Backup CD-ROM Windows Server 2003 R2, Standard Edition DISC 1** (hereafter referred to as *Backup CD-ROM DISC 1*), and **Microsoft Windows Server 2003 R2 Standard Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Backup CD-ROM Windows Server 2003 R2, Enterprise Edition DISC 1** (hereafter referred to as *Backup CD-ROM DISC 1*), and **Microsoft Windows Server 2003 R2 Enterprise Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Microsoft Windows Server 2003 R2, Standard Edition DISC 1** (hereafter referred to as *Windows Server 2003 CD-ROM)*, and **Microsoft Windows Server 2003 R2 Standard Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Microsoft Windows Server 2003 R2, Enterprise Edition DISC 1** (hereafter referred to as *Windows Server 2003 CD-ROM*), and **Microsoft Windows Server 2003 R2 Enterprise Edition DISC 2 (x2)** (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory** (If "Internal Flash Memory" is installed)
- **Windows Server 2003 Service Pack** (CD-ROM)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**

Tips

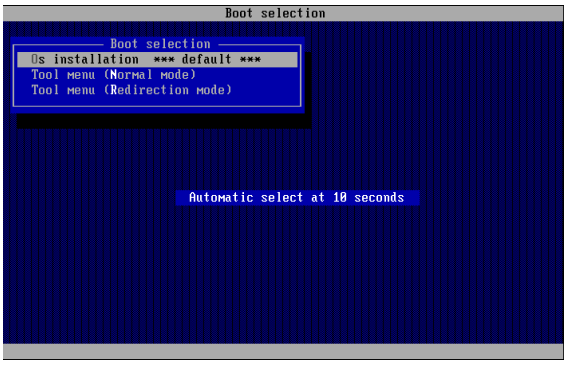
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

6.2.3 Setup procedure

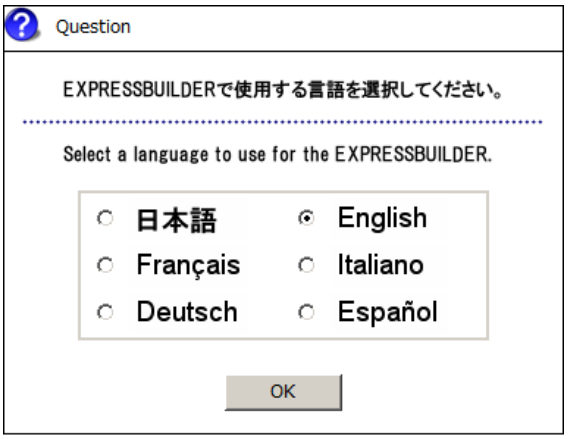
During Setup with EXPRESSBUILDER, parameters are specified through the wizard. You can also save the parameters as one file (a parameter file) to removable media.

Note Read through the items in *Chapter 1 (6.1 Before Starting Setup)* prior to installing Windows.

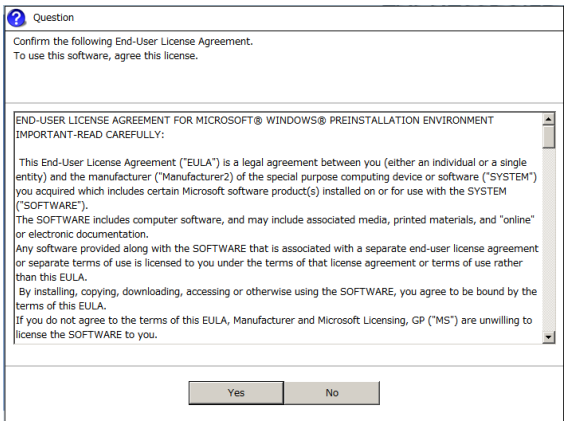
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.
   You will automatically advance to step 4, with no need for further input.



4. Select **English** on the language selection window, and then click [OK].

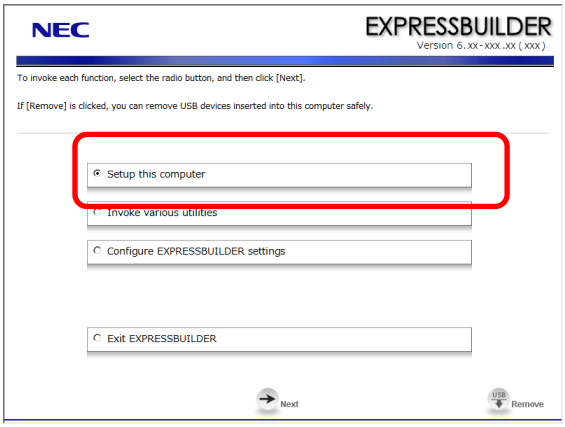


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

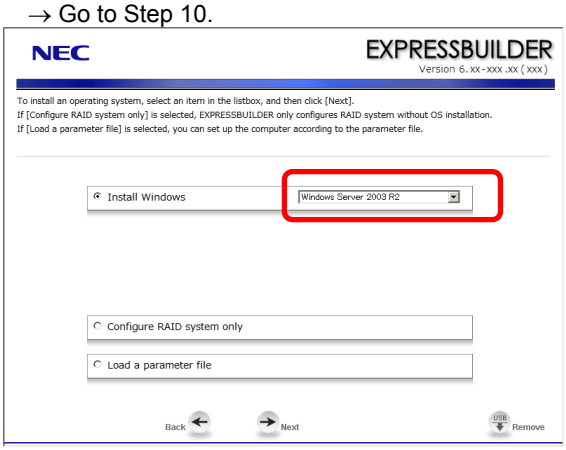
6. Select **Setup this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

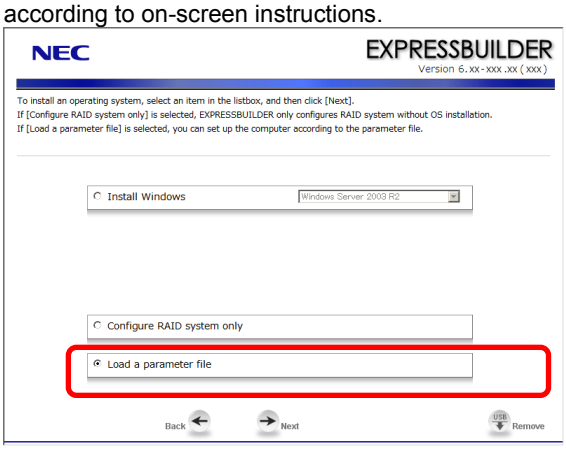
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, parameter input via the wizard can be omitted by loading the saved parameter file.

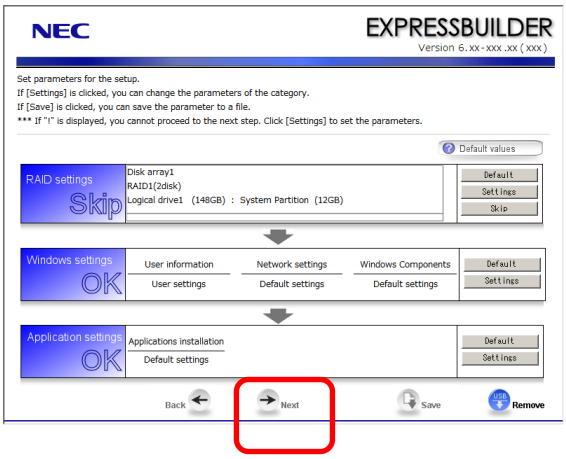
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next].
   On this dialog, select "Windows Server 2003 R2" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to on-screen instructions.

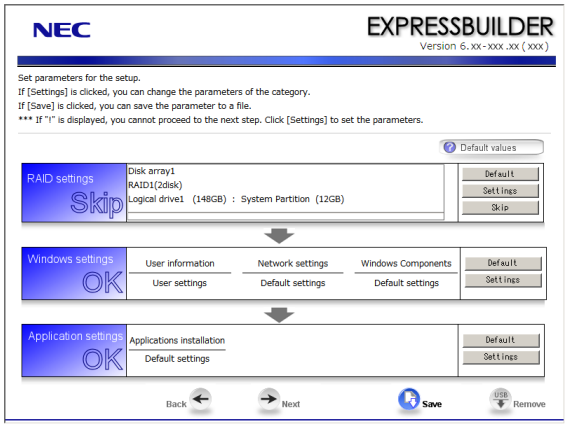

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 13.



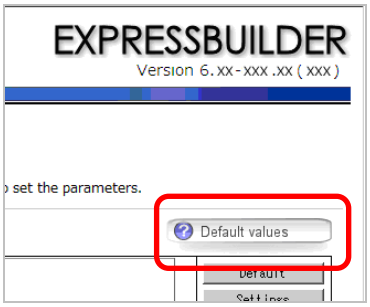
10. Set parameters required for setup.

Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

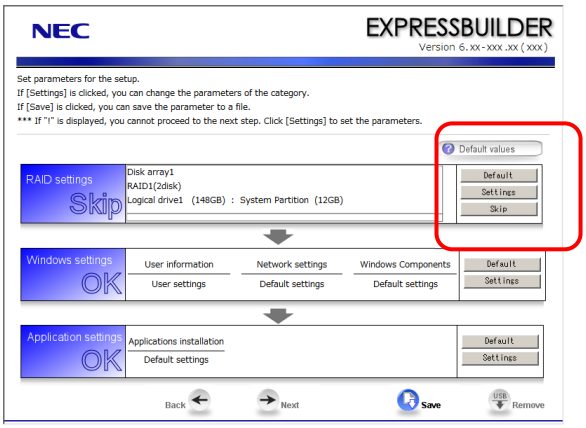
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1)Click [Settings] in RAID settings.

(2)Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

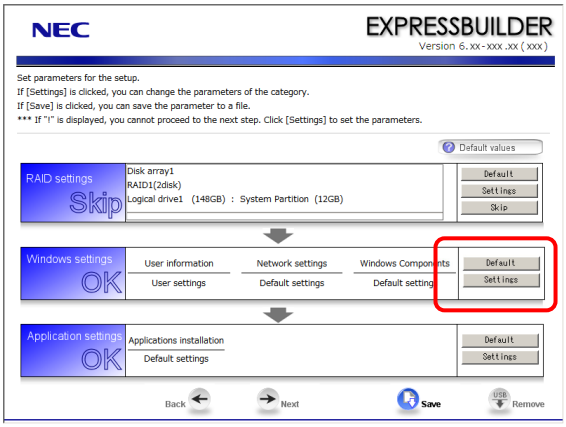
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

When the RAID settings wizard is terminated, Parameter Setup Menu appears again.

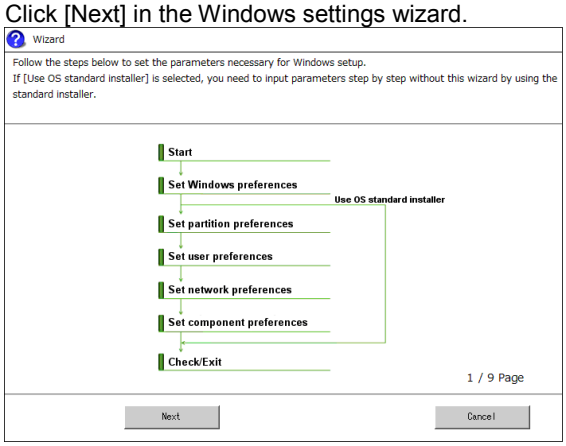
10-2 Windows settings

Set up Windows by using the Windows settings wizard on Parameter Setup Menu.

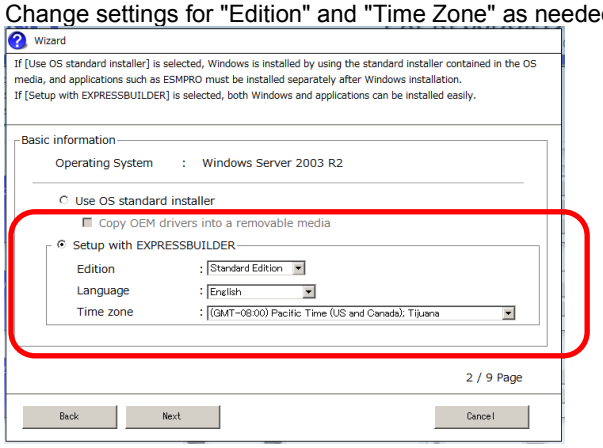


(1) Click [Settings] in **Windows settings**.

(2) Click [Next] in the Windows settings wizard.

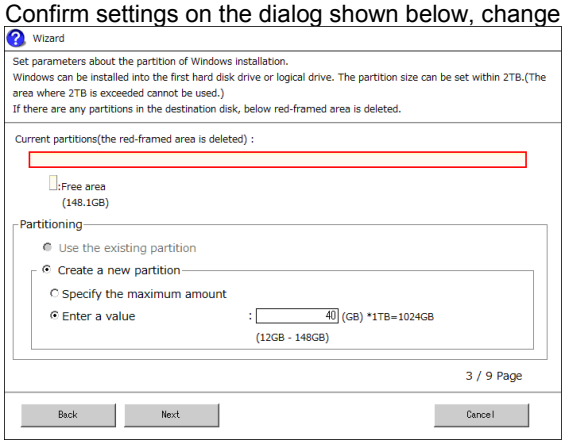

Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 9 Page
Next
Cancel

(3) Specify the Windows basic settings.
Change settings for "Edition" and "Time Zone" as needed, and click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2003 R2
Use OS standard installer
Copy OEM drivers into a removable media
Setup with EXPRESSBUILDER
Edition : Standard Edition
Language : English
Time zone : (GMT-08:00) Pacific Time (US and Canada); Tijuana
2 / 9 Page
Back
Next
Cancel

(4) Set up the partitions.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].


Wizard
Set parameters about the partition of Windows installation.
Windows can be installed into the first hard disk drive or logical drive. The partition size can be set within 2TB.(The area where 2TB is exceeded cannot be used.)
If there are any partitions in the destination disk, below red-framed area is deleted.
Current partitions(the red-framed area is deleted) :
:Free area
(148.1GB)
Partitioning
Use the existing partition
Create a new partition
Specify the maximum amount
Enter a value : 40 (GB) *1TB=1024GB
(12GB - 148GB)
3 / 9 Page
Back
Next
Cancel

Important

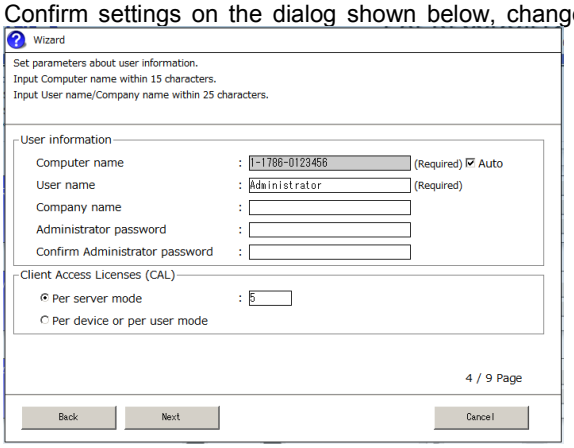
- **Partition size**
  - **Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (6.1 Before Starting Setup)*.)**
  - **The maximum partition size is 2,097,152 MB.**
- **If you select *Create a new partition* under *Partitioning*, the entire contents of the hard disk drive will be deleted.**
- **If you select *Use the existing partition* under *Partitioning*, data in the first partition is formatted and deleted. Data in other partitions will be kept. The figure below shows in which partitions data will be deleted.**

First partition	Second partition	Third partition
Deleted	Retained	Retained

- **You cannot reinstall to an existing partition that has been upgraded to a Dynamic Disk (refer to *Chapter 1 (6.1 Before Starting Setup)*). Do not select *Use the existing partition* under *Partitioning*.**

(5) Enter user information.

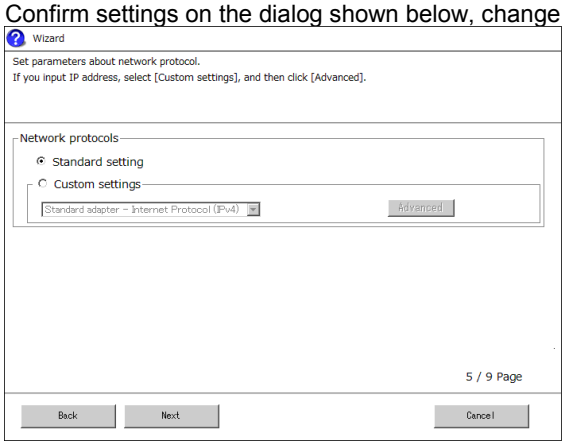
Confirm settings on the dialog shown below, change them as needed, and then click [Next].



Tips

- The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
- If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Confirm Administrator password text boxes even if no value has been entered.

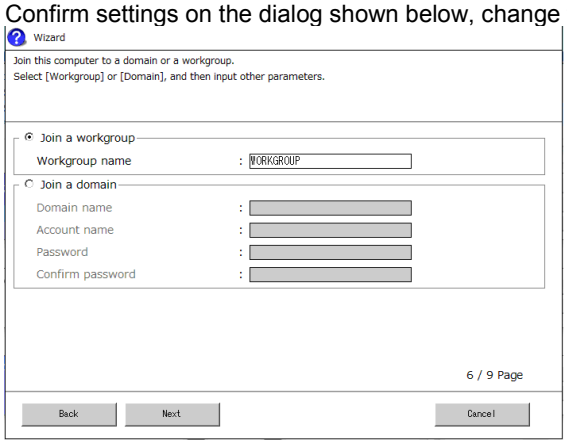
(6) Set up the network.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].



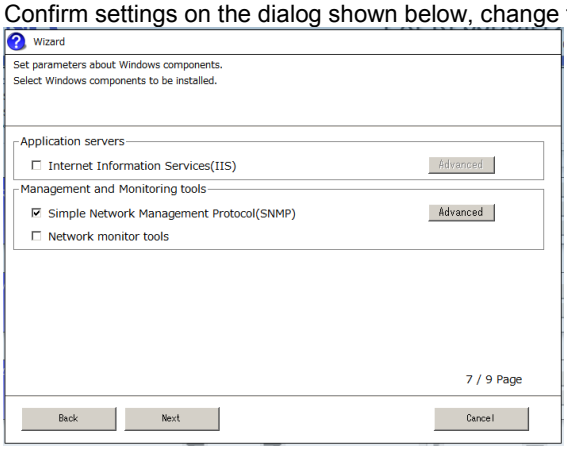
Tips

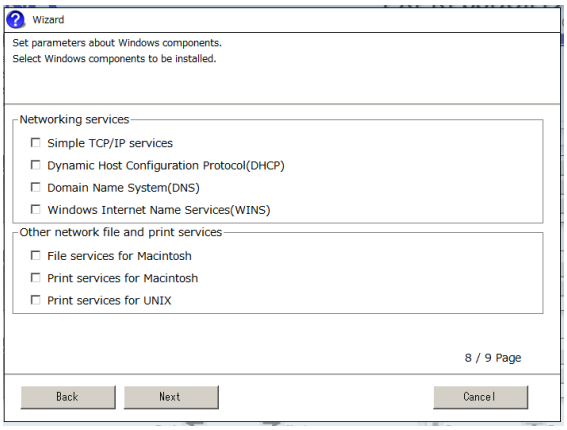
The order of entry in **Custom settings** may differ from the numbering of LAN ports.

(7) Enter the domain or workgroup name to be used.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].

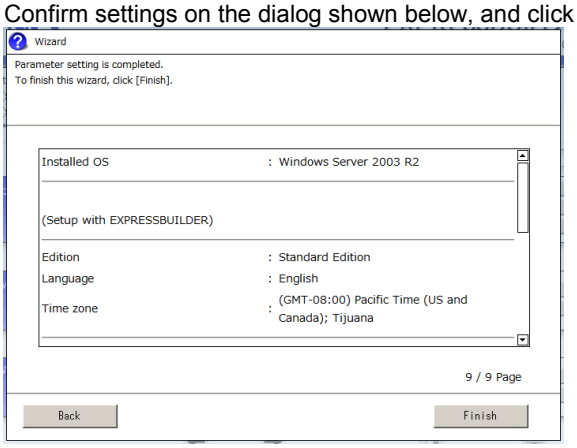


(8) Select the Windows components for installation.
Confirm settings on the dialog shown below, change them as needed, and then click [Next].





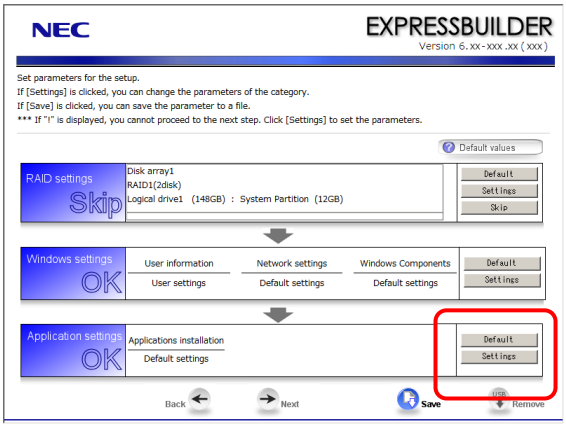
(9) Confirm settings.
Confirm settings on the dialog shown below, and click [Finish].


Wizard
Parameter setting is completed.
To finish this wizard, click [Finish].
Installed OS : Windows Server 2003 R2
(Setup with EXPRESSBUILDER)
Edition : Standard Edition
Language : English
Time zone : (GMT-08:00) Pacific Time (US and Canada); Tijuana
9 / 9 Page
Back
Finish

When the Windows settings wizard is terminated, Parameter Setup Menu appears again.

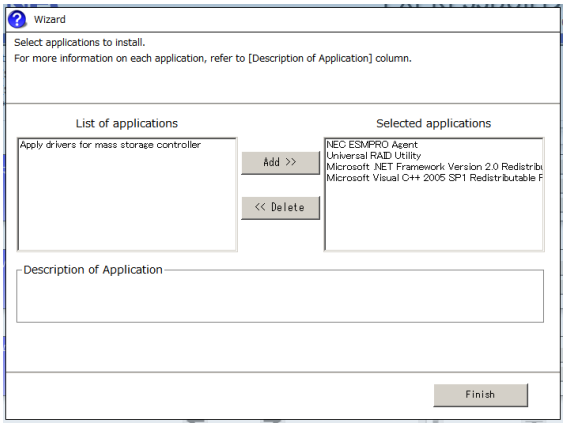
10-3 Application settings

Set up applications using the Application settings wizard in Parameter Setup Menu.



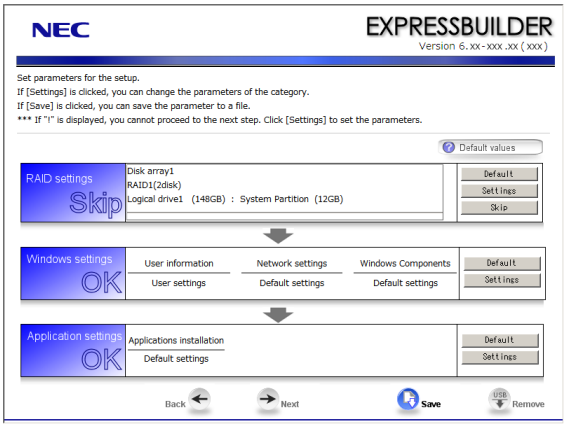
(1) Click [Setting] in **Application settings**.

(2) Confirm settings on the dialog shown below, change them as needed, and click [Finish].

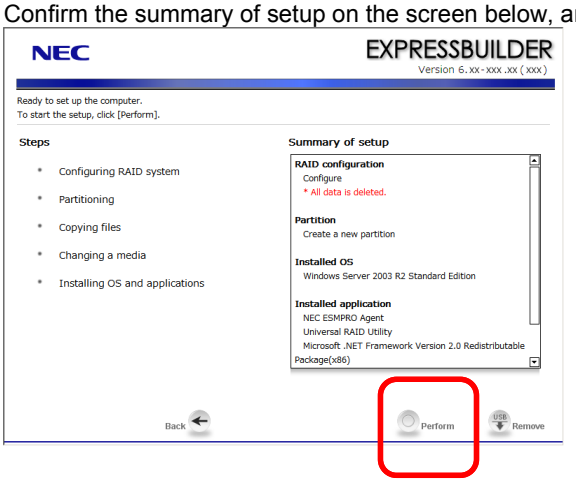


11. Save parameters on Parameter Setup Menu.
    Click [Save], and save the parameter file according to on-screen instructions.
    If you do not need to save parameters, go to Step 12.

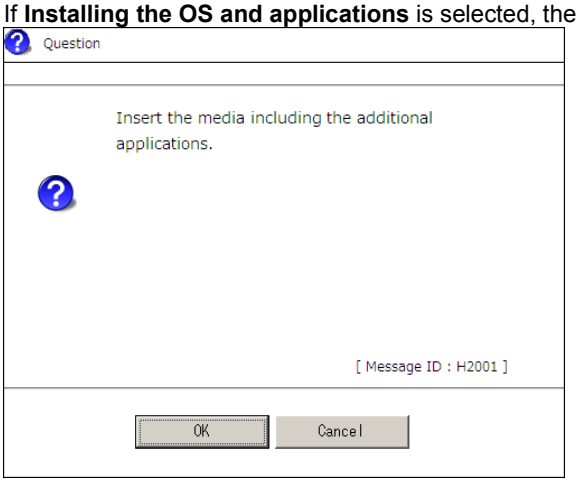
12. Click [Next] on Parameter Setup Menu.



13. Confirm the summary of setup on the screen below, and click [Perform].

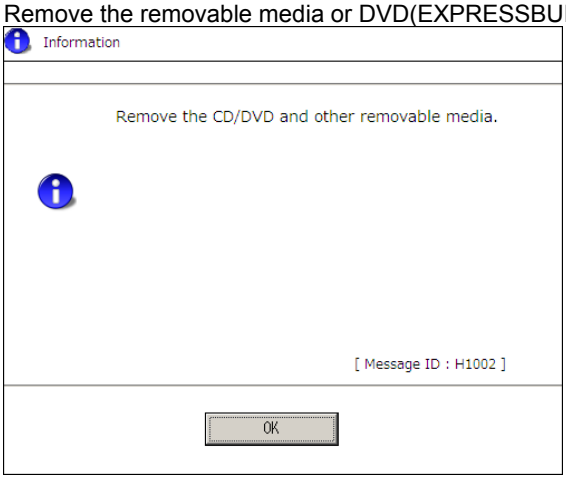


14. Install the additional applications.
If **Installing the OS and applications** is selected, the following message will appear.

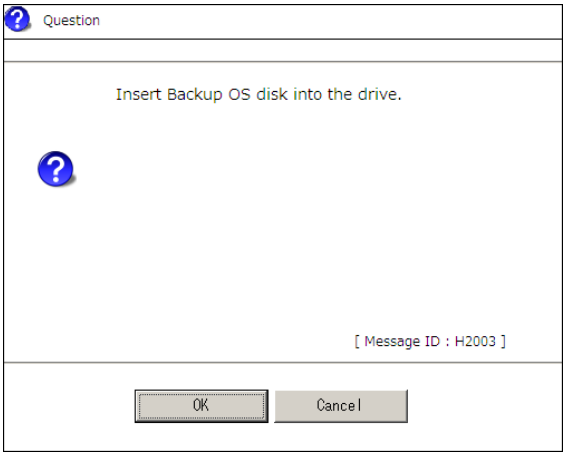


Insert the CD-ROM or removable media that contains the necessary applications, and install them according to on-screen messages.

15. Remove the removable media or DVD(EXPRESSBUILDER) from the server.

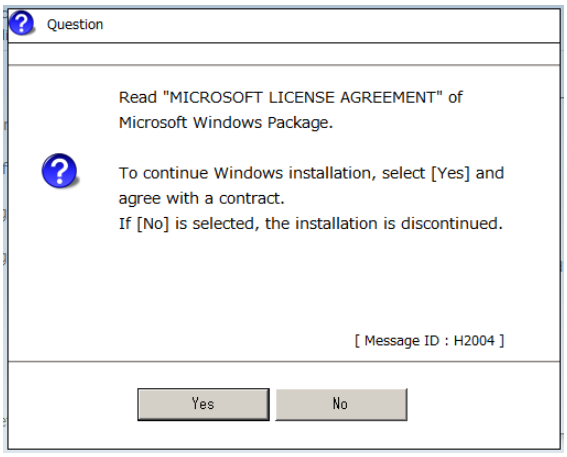


16. Insert the Windows Server 2003 DVD-ROM into the optical disk drive, and then click [OK].



Windows Server 2003 and selected applications will be installed automatically and restart several times.

17. Confirm the license terms displayed on the screen below. Click [Yes] if you accept these terms.


Question
Read "MICROSOFT LICENSE AGREEMENT" of Microsoft Windows Package.
To continue Windows installation, select [Yes] and agree with a contract.
If [No] is selected, the installation is discontinued.
[Message ID : H2004]
Yes
No

Tips

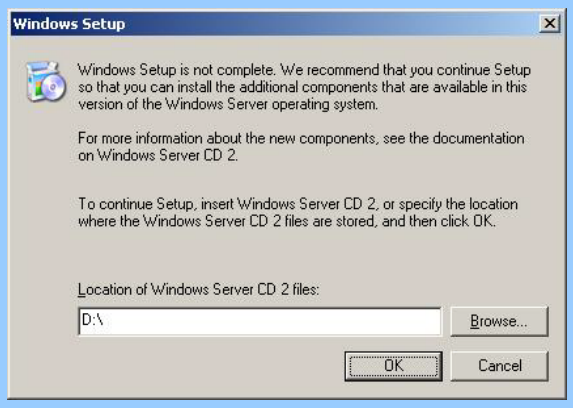
If any OS CD-ROM other than Backup CD-ROM, the following message may appear. Click [OK] and enter the product key.

> The setup script file does not contain a valid Product ID.
> Contact your system administrator for a valid Product ID.

Windows Server 2003 and the specified application programs are automatically installed. Logon the system.

Important

The dialog box shown below may appear during installation. You can ignore this dialog until the Setup Complete window appears.


Windows Setup
Windows Setup is not complete. We recommend that you continue Setup so that you can install the additional components that are available in this version of the Windows Server operating system.
For more information about the new components, see the documentation on Windows Server CD 2.
To continue Setup, insert Windows Server CD 2, or specify the location where the Windows Server CD 2 files are stored, and then click OK.
Location of Windows Server CD 2 files:
D:\
Browse...
OK
Cancel

18. Click [OK] in the Setup Complete window.
19. When installation completes, the [Windows Setup] screen appears.

Windows Setup
Windows Setup is not complete. We recommend that you continue Setup so that you can install the additional components that are available in this version of the Windows Server operating system.
For more information about the new components, see the documentation on Windows Server CD 2.
To continue Setup, insert Windows Server CD 2, or specify the location where the Windows Server CD 2 files are stored, and then click OK.
Location of Windows Server CD 2 files:
D:\
Browse...
OK
Cancel

Insert the Windows Server 2003 R2 DISC 2 into the optical disk drive.
Check the settings, and then click [OK].
When the installation procedure completes, remove the Windows Server 2003 R2 Edition DISC 2 from the optical disk drive and then restart the system.

Tips To install the service pack, be sure to apply Windows Server 2003 R2 DISC 2 before applying Starter Pack.

20. Install Starter Pack by referring to Chapter 1 (6.3 Installing Starter Pack).
21. Install drivers and specify detailed settings by referring to Chapter 1 (6.4 Setting Up Device Drivers).
22. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.
23. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems)*.

Setup with EXPRESSBUILDER is now complete.

6.3 Setup with OS Standard Installer

This section describes how to install Windows with OS Standard Installer.

This feature automatically recognizes the RAID Controller connected to the server and configures the RAID System, so you must complete the hardware installation of the server by following "*User's Guide* ".

Important

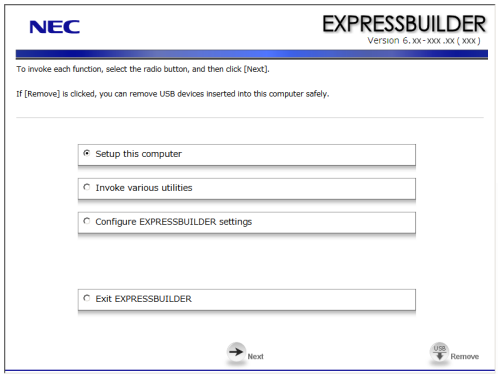
- **Setup with OS standard Installer may delete all data in the hard disk drive depending on the settings. Pay attention to input parameters. You must be especially careful when configuring the following:**
  - **RAID settings wizard**

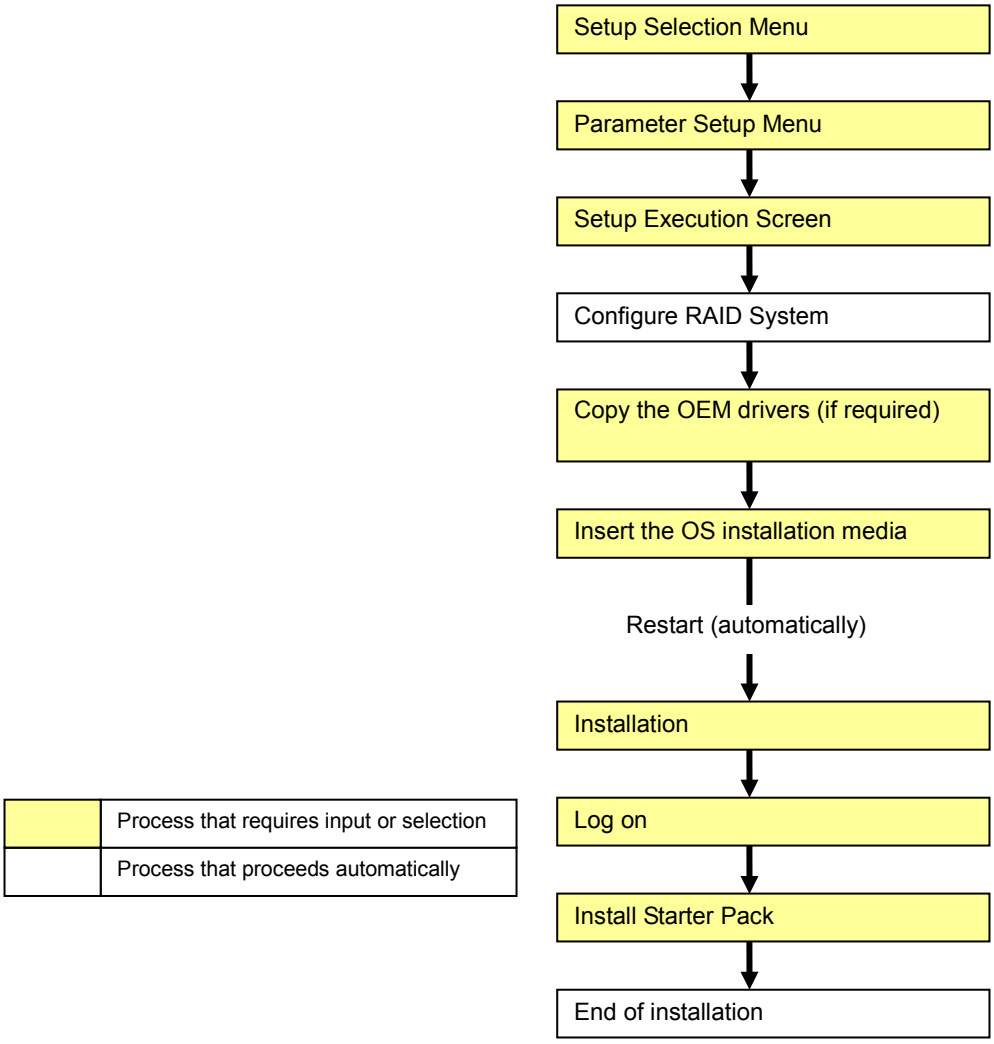
  Backing up user data, as needed, is recommended.

Tips

- Setup with OS Standard Installer allows you to use a prespecified parameter file or save the parameters specified in setup as a parameter file on a removable media or Internal Flash Memory (if purchased optionally).
- For details on creating a parameter file, refer to *Chapter 1* (*8 Windows OS Parameter File)*.

6.3.1 Setup flow


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove



6.3.2 Requirements for Setup

Prepare the following media and instruction manuals before starting setup.

- Operating system installation media (prepare one of the following)
  - **Backup CD-ROM Windows Server 2003 R2, Standard Edition DISC 1**
    (hereafter referred to as B*ackup CD-ROM DISC 1*), and
    Microsoft Windows Server 2003 R2 Standard Edition DISC 2 (x2)
    (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Backup CD-ROM Windows Server 2003 R2, Enterprise Edition DISC 1**
    (hereafter referred to as *Backup CD-ROM DISC 1*), and
    Microsoft Windows Server 2003 R2 Enterprise Edition DISC 2 (x2)
    (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Microsoft Windows Server 2003 R2, Standard Edition DISC 1**
    (hereafter referred to as *Windows Server 2003 CD-ROM)*, and
    Microsoft Windows Server 2003 R2 Standard Edition DISC 2 (x2)
    (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
  - **Microsoft Windows Server 2003 R2, Enterprise Edition DISC 1**
    (hereafter referred to as *Windows Server 2003 CD-ROM*), and
    Microsoft Windows Server 2003 R2 Enterprise Edition DISC 2 (x2)
    (hereafter referred to as *Windows Server 2003 R2 DISC 2*)
- **Windows Server 2003 Service Pack** (CD-ROM)
- **First Steps Guide**
- Either of the following EXPRESSBUILDER
  - **EXPRESSBUILDER DVD**
  - **Internal Flash Memory**
    (If "Internal Flash Memory " is installed)
- Prepare if needed:
  - **Removable media for Windows OS parameter file**
  - **Flash FDD for creating OEM drivers** (Windows Server 2003)

Note

OEM drivers are is necessary if a RAID Controller or optional board is connected.
Use a Flash FDD as the removable media to create OEM drivers.

Tips

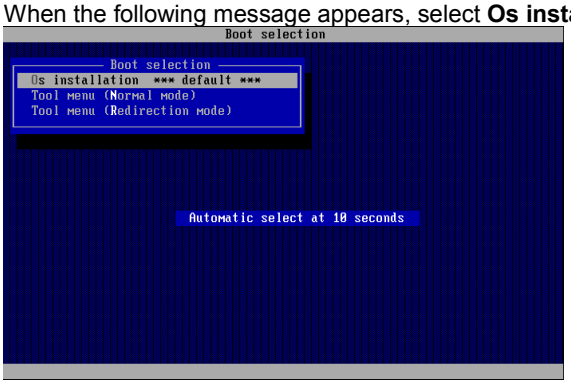
- EXPRESSBUILDER may be distributed in Internal Flash Memory. EXPRESSBUILDER can be run from Internal Flash Memory if it is installed in the server.
- If you are using a server with Internal Flash Memory installed, you can install the OS without using EXPRESSBUILDER DVD.

6.3.3 Setup procedure

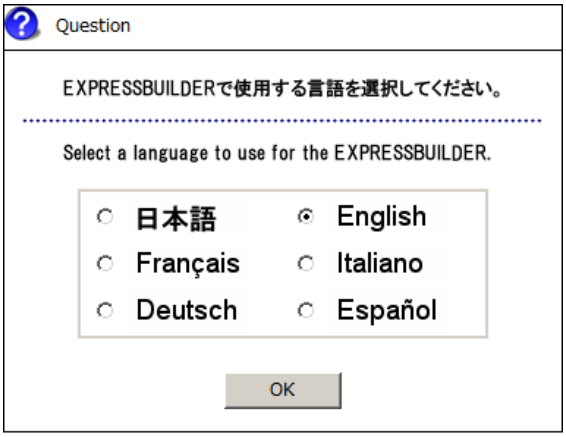
This section describes the procedure for installing Windows Server 2003 using the OS standard installer.

Note Before starting setup, refer to *6.1 Before Starting Setup*. It describes how to make partitions.

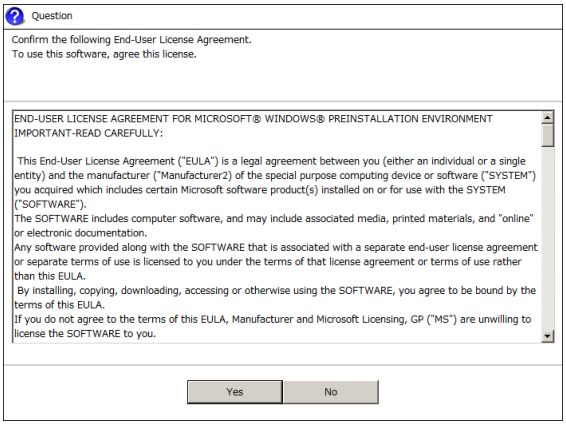
1. Turn peripheral device power on, and then turn the server power on.
2. Start EXPRESSBUILDER according to *Chapter 1 (1.1 Starting EXPRESSBUILDER)*.
3. When the following message appears, select **Os installation *** default *****.



4. Select **English** on the language selection menu, and then click [OK].

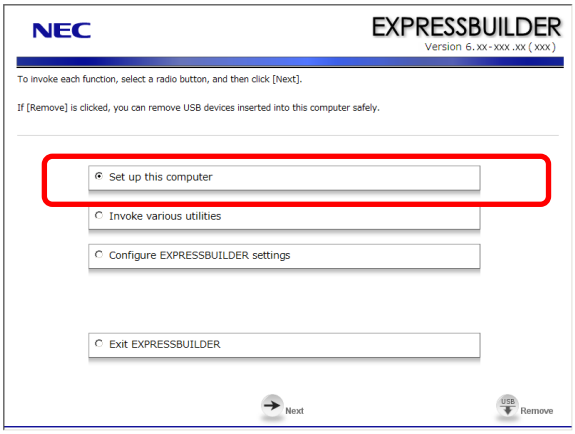


5. When the Windows PE software license agreement window appears, click [Yes].


Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

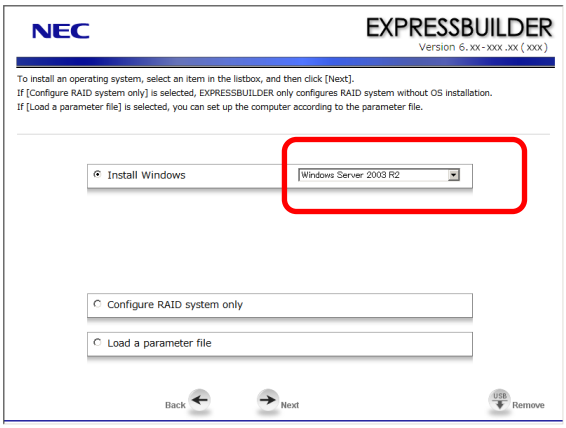
6. Select **Setup this computer** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select a radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Set up this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

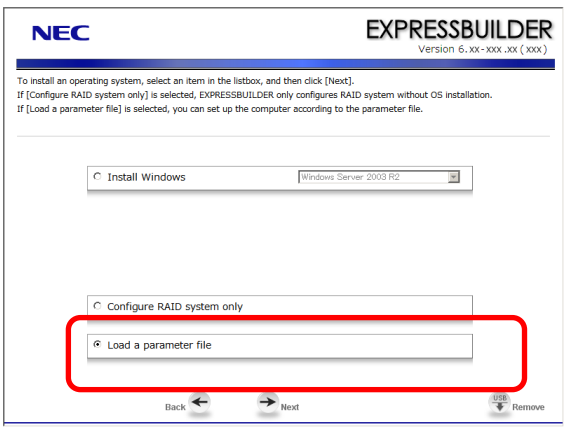
7. Set parameters on this menu according to your requirement.
   ☐ When not using parameter file: Go to Step 8.
   ☐ When using a parameter file: Go to Step 9.

Note When setting up again, an already saved parameter file can be read, so that you can skip inputting parameters in the wizard

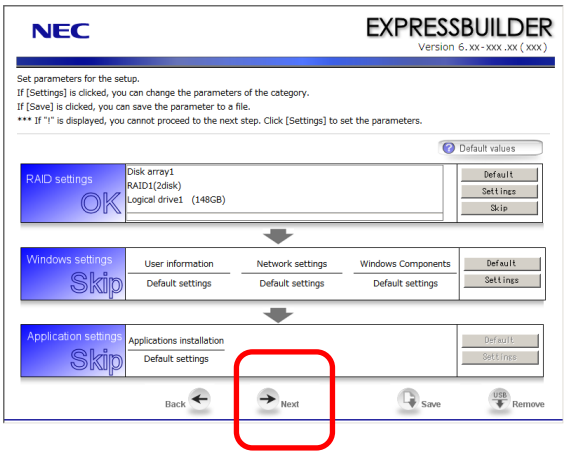
8. If you do not use a parameter file, select an OS from the pull-down menu in [Install Windows], and click [Next]. On this dialog, select "Windows Server 2003 R2" from the pull-down menu.
   → Go to Step 10.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

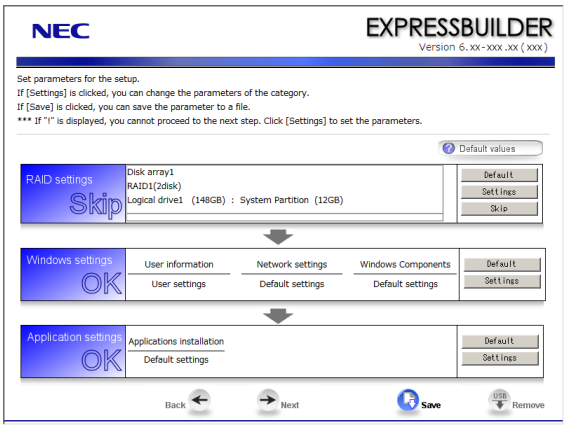
9. If you use a parameter file, select [Load a parameter file] and click [Next]. Load a parameter file according to on-screen instructions.


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2003 R2
Configure RAID system only
Load a parameter file
Back
Next
Remove

Confirm settings on Parameter Setup Menu as needed, then click [Next].
→ Go to Step 16.

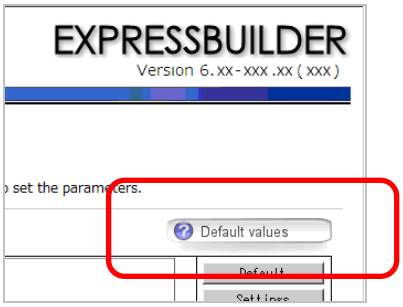


10. Set parameters required for setup.
Click [Settings] of the relevant category to change parameters.



Click [Default] to restore the default values.

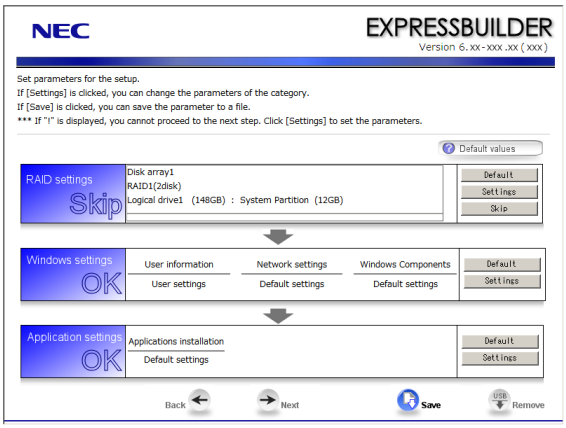
You can see the default values by clicking [Default values].



10-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically.

Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



When creating new logical drives

(1) Click [Settings] in RAID settings.

(2) Use the wizard to set up logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

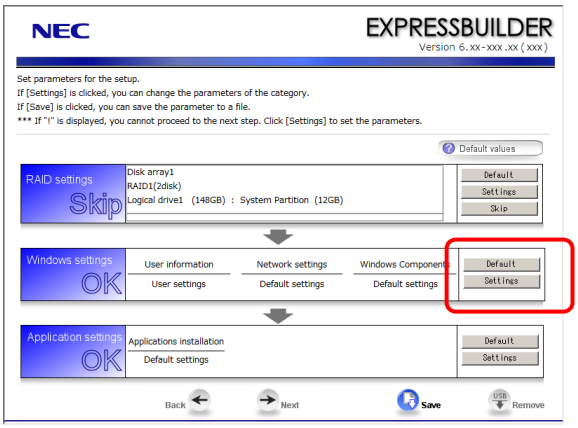
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

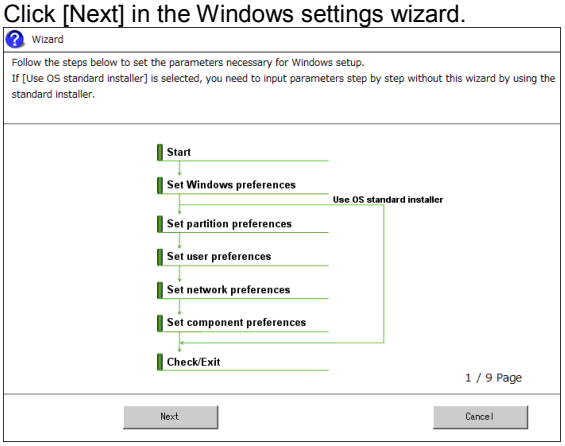
Tips Use the [Skip] button if, after modifying the settings with the RAID settings wizard, you want to install the existing configurations without modifying them.

When the RAID settings wizard is terminated, return to Parameter Setup Menu.

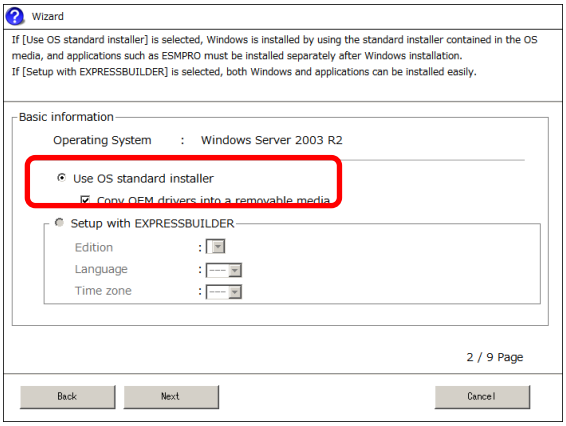
11. Click [Settings] in **Windows settings**.



12. Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 9 Page
Next
Cancel

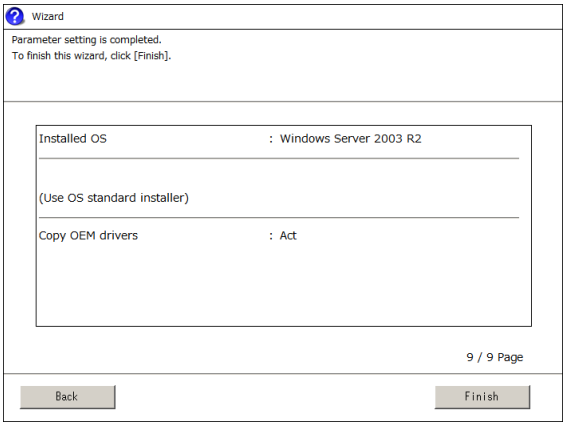
13. Specify the Windows basic settings
The basic information window appears. Select **Use OS standard installer**, and then click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2003 R2
Use OS standard installer
Copy OEM drivers into a removable media
Setup with EXPRESSBUILDER
Edition :
Language :
Time zone :
2 / 9 Page
Back
Next
Cancel

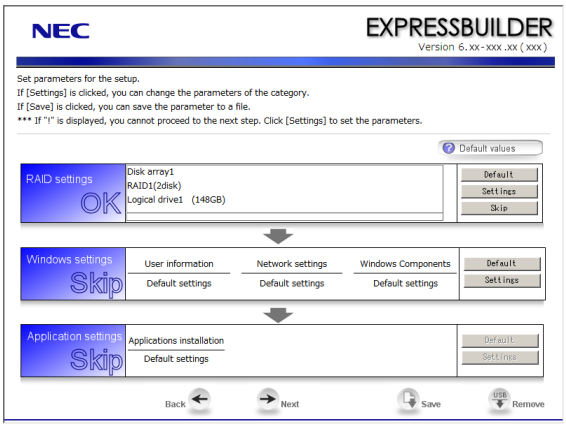
If copying the OEM drivers to the removable media, select **Copy the OEM drivers into the removable media**.

Tips **If you copied the OEM drivers to a Flash FDD, format it to FAT16.**

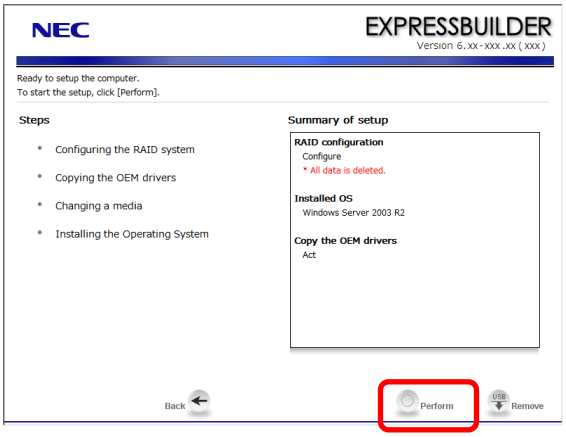
14. After clicking [Finish] on the confirmation window, click [Next] in Parameter Setup Menu.



15. Click [Next] on Parameter Setup Menu.



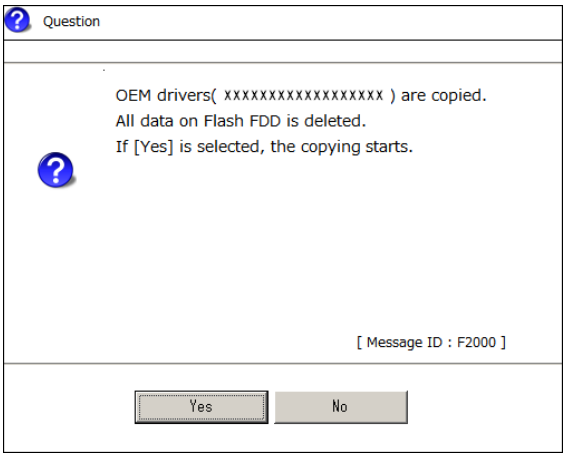
16. Confirm the summary of setup on the screen below, and click [Perform].
The server automatically restarts.



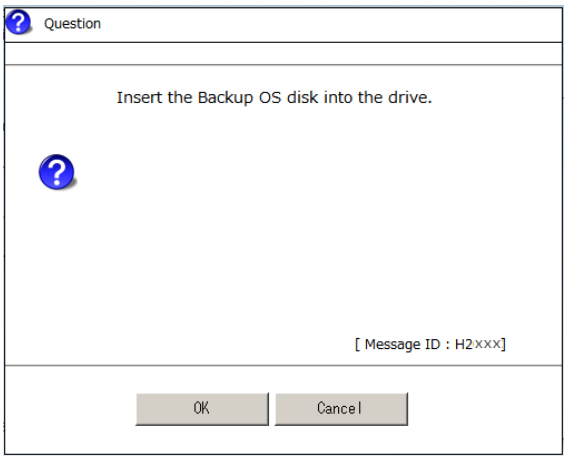
Note

- If you select the **Copy the OEM drivers into the removable media** check box, insert a Flash FDD into the server and then click [Perform].
- Do not remove the media while copying OEM drivers.

17. Continue setup according to on-screen message.
If the **Copy the OEM drivers to the removable media** checkbox is selected in step 13, the following window appears. Follow the onscreen instructions and continue the operation.


Question
OEM drivers(xxxxxxxxxxxxxxxxx) are copied.
All data on Flash FDD is deleted.
If [Yes] is selected, the copying starts.
[Message ID : F2000]
Yes
No

When the following message appears, set OS installation media, and click [OK].



18. The server automatically restarts.
    To use OEM driver, change boot priority of Flash FDD on BIOS settings, after restarting the server.
    Select **Boot**, **Floppy Drive BBS priorities**, **Boot Option #1**, and then specify the Flash FDD used.

19. Run from the OS installation media.
    If a bootable operating system is already installed on the hard disk drive, press <Enter> key while the message "Press any key to boot from CD or DVD…" is displayed on the top of the screen.

    The boot sequence proceeds and the following message appears.

Note If this message does not appear, reboot the server and retry.

    This step is unnecessary if no bootable operating system exists.

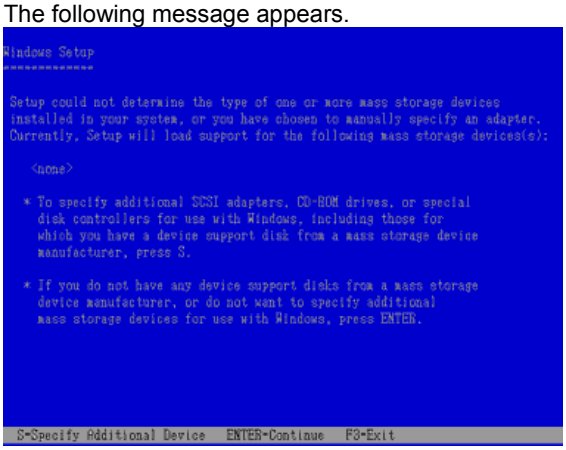
20. If a RAID Controller or optional SCSI Controller is used, press <F6> key while either of the following messages is displayed. If not, go to step27 without pressing <F6> key.

    "Setup is inspecting your computer's hardware configuration" (on the top of the screen)
    "Press F6 if you need to install a third party SCSI or RAID driver…" (on the bottom of the screen)

Tips

- Note that nothing changes on the screen even when the <F6> key is pressed.
- If the OEM drivers list is not displayed at step 22, 24 or 26, check the boot order of the Flash FDD on BIOS settings.

21. The following message appears.


Windows Setup
Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage devices(s):
<none>
* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.
* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.
S=Specify Additional Device ENTER=Continue F3=Exit

If N8103-149/150/151 RAID Controller is connected, press <S> key and go to step 22.
If not, go to step 23.

22. Select the following from the driver list, and then press <Enter> key.

LSI MegaRAID SAS RAID Controller Driver

The screen shown in step 21 appears. Go to step 23.

23. If N8103-107 is connected, press <S> key and go to step 24. If not, go to step 25.

24. Select **Adaptec Ultra320 SCSI Cards (Windows 32-bit)**, and then press <Enter> key.

Note

If the following message appears, press <S> key to proceed.

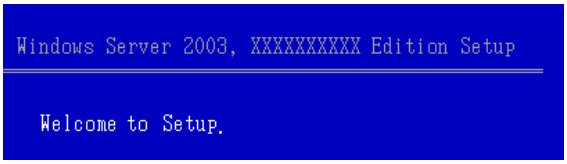
```
The driver you provided seems to be newer than the Windows
default driver.
Windows already has a driver that you can use for "Adaptec
Ultra 320 SCSI Cards (Windows 32-bit)"
Unless the device manufacturer prefers that you use the
driver on the floppy disk, you should use the driver in
Windows.
```

The screen shown in step 21 appears again. Go to step 25.

25. If N8103-104A is connected, press <S> key and go to step 26.
If not, press <Enter> key and go to step 27.

26. Select **LSI Fusion-MPT SAS Driver (Server 2003 32-bit)**, and then press <Enter> key.
The screen shown in step 21 appears again. Press <Enter> key and go to step 27.

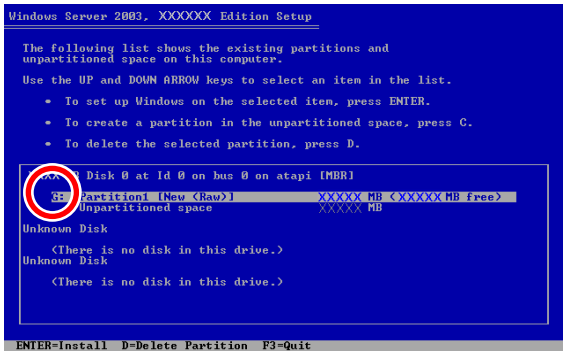
27. When the following message appears, press <Enter> key to start Windows setup.



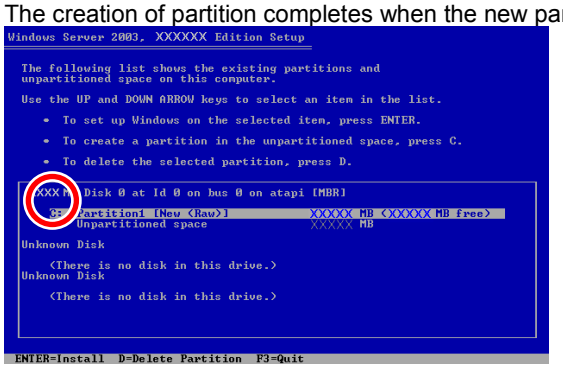
The following screen is displayed for setting the partition of Windows.

If the partition created is shown as "G:", delete the partition "G:". If it is shown as "C:", you do not need to delete the partition.

Important **Pay attention to a partition you are going to delete.**


Windows Server 2003, XXXXXX Edition Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
Disk 0 at Id 0 on bus 0 on atapi [MBR]
Partition1 [New (Raw)] XXXXX MB (XXXXX MB free)
Unpartitioned space XXXXX MB
Unknown Disk
(There is no disk in this drive.)
Unknown Disk
(There is no disk in this drive.)
ENTER=Install D=Delete Partition F3=Quit

Create a partition again by pressing <C> key.
The creation of partition completes when the new partition is created in drive "C:", as shown below.


Windows Server 2003, XXXXXX Edition Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
Disk 0 at Id 0 on bus 0 on atapi [MBR]
Partition1 [New (Raw)] XXXXX MB (XXXXX MB free)
Unpartitioned space XXXXX MB
Unknown Disk
(There is no disk in this drive.)
Unknown Disk
(There is no disk in this drive.)
ENTER=Install D=Delete Partition F3=Quit

Important

- **A partition in which you install Windows must be created in drive "C:".**
- **When installing Windows Server 2003 to a disk of over 2,097,152 MB (2 TB), the partition size can only be set to 2,097,152 MB or less.**

Tips

The server automatically restarts after copying files.
Do not remove the CD-ROM and the Flash FDD.

After this, follow the onscreen instructions to continue setup.
For details, refer to "*First Step Guide*" supplied with the OS.

Tips

When a driver is selected from the drive list, a message indicating that the driver has not passed logo testing might appear, but this does not affect the setup. Click [OK] to continue setup.

28. The server automatically restarts after installing Windows Server 2003 R2.

29. The Windows Setup dialog box appears after log on.

Windows Setup
Windows Setup is not complete. We recommend that you continue Setup so that you can install the additional components that are available in this version of the Windows Server operating system.
For more information about the new components, see the documentation on Windows Server CD 2.
To continue Setup, insert Windows Server CD 2, or specify the location where the Windows Server CD 2 files are stored, and then click OK.
Location of Windows Server CD 2 files:
D:\
Browse...
OK
Cancel

Important **Be sure to install the Windows Server 2003 R2 DISC 2 according to the following steps even if the dialog box does not appear.**

30. Insert the Windows Server 2003 R2 DISC 2 into the optical disk drive.
    Check the settings, and then click [OK].

31. When the installation procedure completes, remove the Windows Server 2003 R2 Edition DISC 2 from the optical disk drive and then restart the server.

32. Install Starter Pack by referring to *Chapter 1 (6.3 Installing Starter Pack (Service Pack))*.

33. Install drivers and specify detailed settings by referring to *Chapter 1 (6.4 Setting Up Device Drivers)*.

34. For optional devices whose driver has not been installed, install the device drivers according to the instructions supplied in the driver manual.

35. Execute setup by following the instructions described in *Chapter 1 (7. Setup for Solving Problems)*.

Setup with OS standard installer is now complete.

6.4 Installing Starter Pack

After installing Windows Server 2003, be sure to install Starter Pack and Windows Server 2003 hotfix: knowledge base (KB) 921411.

Starter Pack contains drivers customized for this server. Be sure to apply Starter Pack before running the system.

Important

- **Starter Pack and Windows Server 2003 hotfix: KB921411 must also be installed in the following cases. Be sure to install Starter Pack and Windows x64 hotfix: KB921411 in the following cases:**
  - **The system configurations have changed (when internal option devices have been added or removed)**
    If a dialog box prompting you to restart appears after changing system configurations, click [No] and then update the system.
  - **If the system was restored using a restore process**
  - **If a system has been restored using the backup tool**
- **Be sure to install Service Pack 2 (CD-ROM) from Starter Pack.**
- **If you used a Windows Server 2003 CD-ROM including Service Pack 2 for installation, you do not have to install Service Pack 2 again.**

Note

For Windows Server 2003 R2, make sure that **Windows Server 2003 R2** is displayed in the system properties window before applying a Service Pack.

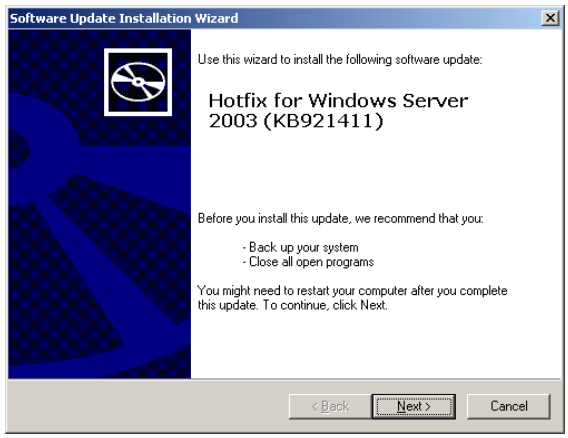
Tips

If you used the Windows Server 2003 CD-ROM including Service Pack 2 for installation, you do not have to install Windows Server 2003 hotfix: KB921411.

6.4.1 Procedure to apply Windows Server 2003 hotfix: KB921411

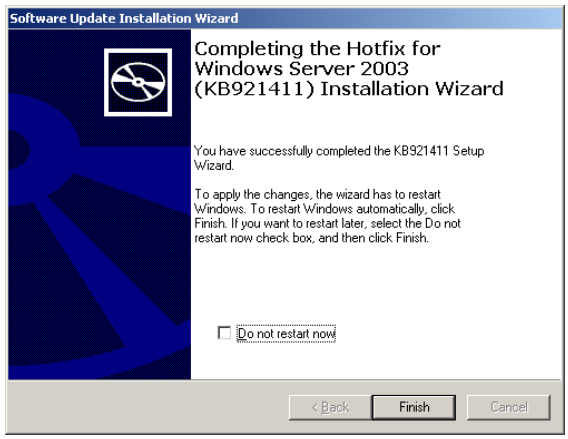
(1) When using EXPRESSBUILDER DVD

1. Log on to the system with a user account that has administrative privileges (such as Administrator).
2. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If you installed the Windows Server 2003 with Service Pack 2, go to step 9.
3. When the menu appears automatically, close it.
4. Select **Run** from the **Start** menu, and then execute the following command:
   Optical disk drive:\021\win\winnt\dotnet\qfe\enu\kb921411.exe
5. When the following message appears, click [Next].


Software Update Installation Wizard
Use this wizard to install the following software update:
Hotfix for Windows Server 2003 (KB921411)
Before you install this update, we recommend that you:
- Back up your system
- Close all open programs
You might need to restart your computer after you complete this update. To continue, click Next.
< Back
Next >
Cancel

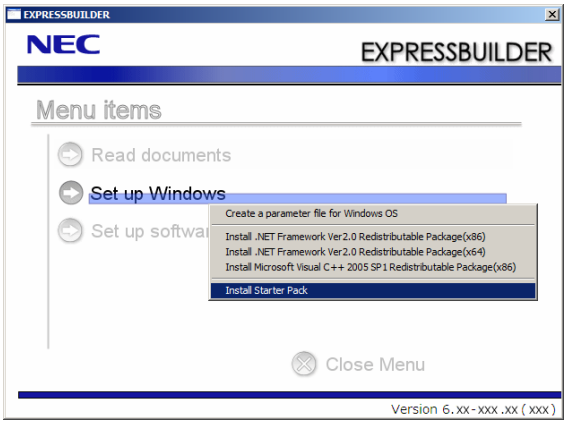
After this, continue installation according to the onscreen messages.

6. When the following message appears, click [Finish] and remove EXPRESSBUILDER DVD before restarting.

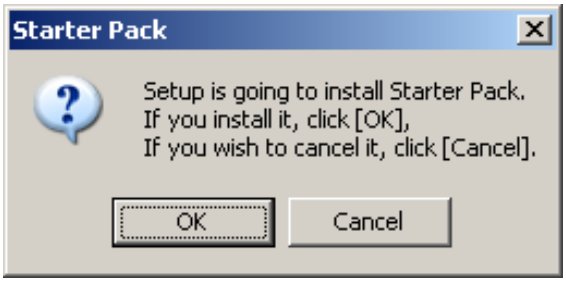

Software Update Installation Wizard
Completing the Hotfix for Windows Server 2003 (KB921411) Installation Wizard
You have successfully completed the KB921411 Setup Wizard.
To apply the changes, the wizard has to restart Windows. To restart Windows automatically, click Finish. If you want to restart later, select the Do not restart now check box, and then click Finish.
Do not restart now
< Back
Finish
Cancel

7. Log on to the system with a user account that has administrative privileges (such as Administrator).
8. Insert EXPRESSBUILDER DVD into the optical disk drive.

9. When the following menu appears, click **Setup Windows** to open the short-cut menu and then select **Install Starter Pack**.



10. Read the setup message, and then click [OK].


Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
OK
Cancel

Tips Wait until the message appears without attempting any further operation. This may take several minutes.

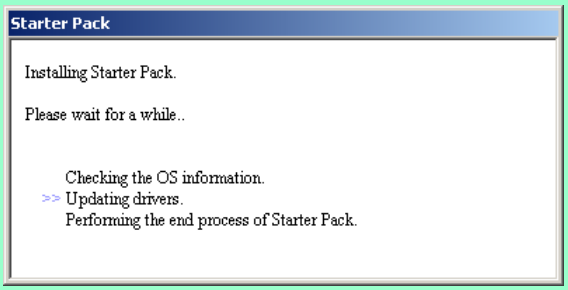
Starter Pack installation starts.

Important **The dialog box shown below might appear while installing Starter Pack, but this does not affect the installation. This dialog box disappears after several seconds. Do not click [Cancel].**

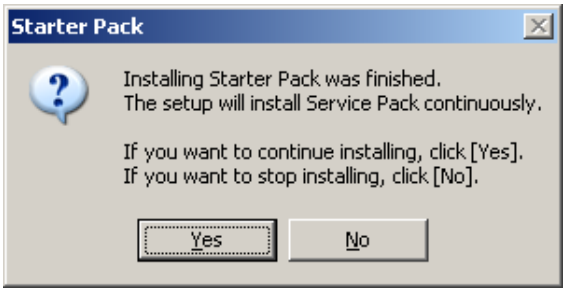
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Note

The following progress message will appear while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

11. When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup will install Service Pack continuously.
If you want to continue installing, click [Yes].
If you want to stop installing, click [No].
Yes
No

To apply the Service Pack, click [Yes] and go to step 12.

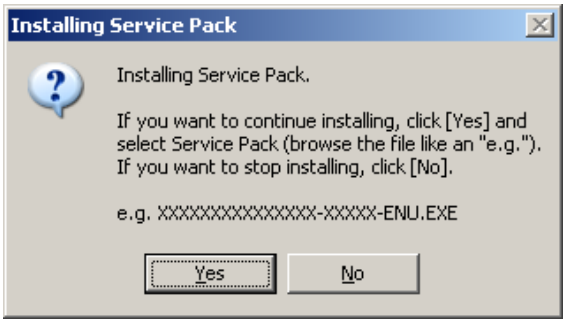
To not apply the Service Pack, click [No] and go to step 14.

Important

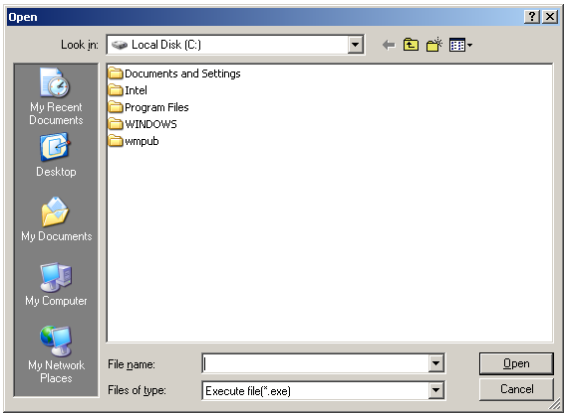
If you are using OS installation media that does not contain Service Pack 2, click [Yes]. You must apply Service Pack 2.

If Starter Pack is being reinstalled in an environment where Service Pack 2 has already been installed, you do not need to reinstall Service Pack 2.

12. When the following message appears, click [Yes].


Installing Service Pack
Installing Service Pack.
If you want to continue installing, click [Yes] and select Service Pack (browse the file like an "e.g.").
If you want to stop installing, click [No].
e.g. XXXXXXXXXXXXXXXX-XXXXX-ENU.EXE
Yes
No

13. When the following dialog box appears, specify the Service Pack to apply and then click [Open].



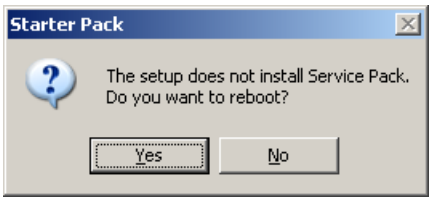
Tips

- If you use a Service Pack CD-ROM, when the dialog box above appears, remove EXPRESSBUILDER DVD from the optical disk drive and then insert the Service Pack CD-ROM.
- The extension of the Service Pack applicable to Starter Pack is `*.exe` or `*.msu`. No other Service Pack files can be installed.

Installation of the specified Service Pack starts.

When the Service Pack installation completion window appears, restart the system.

14. When the following message prompts you to restart the server, click [Yes] and remove media from the optical disk drive before restarting.



Installation of Starter Pack is now complete.

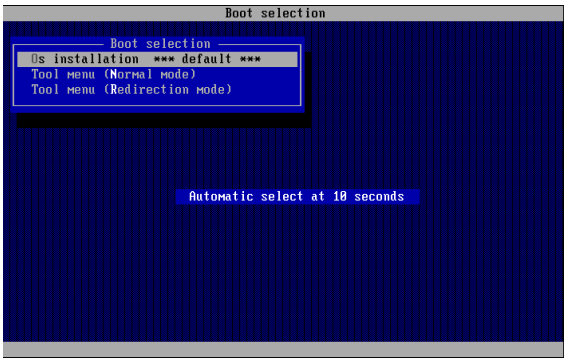
(2) When using Internal Flash Memory (Required only when optional "Internal Flash Memory" is installed)

1. After installing the operating system, restart the server.
2. When "Press <F2> Setup, <F3> Internal Flash Memory, <F4> ROM Utility, <F12> Network" appears during POST, press <F3> key.

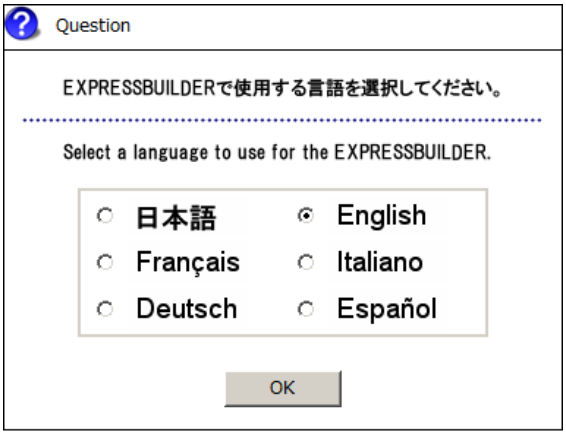
Note

- Be sure to remove bootable media from the optical disk drive.

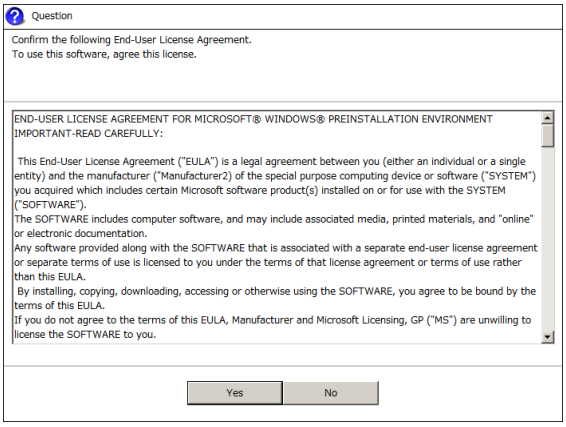
3. When the following message appears, select **Os installation *** default *****.



4. Select **English** on the language selection menu, and then click [OK].

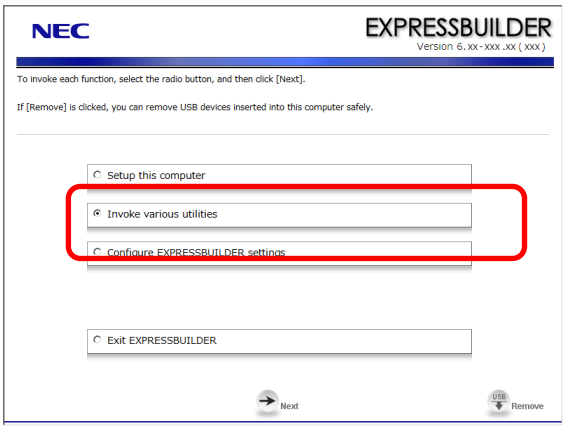


5. When the Windows PE software license agreement window appears, click [Yes].

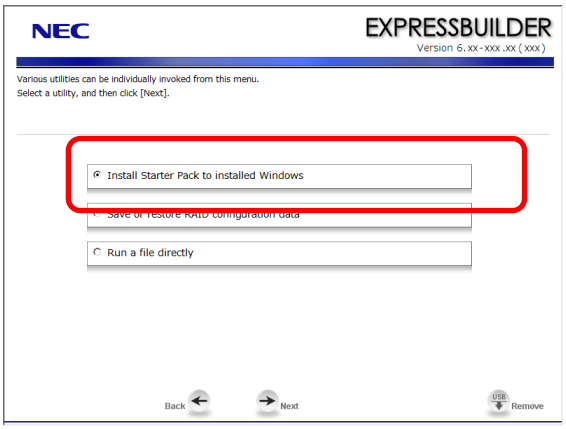

Question
Confirm the following End-User License Agreement.
To use this software, agree this license.
END-USER LICENSE AGREEMENT FOR MICROSOFT® WINDOWS® PREINSTALLATION ENVIRONMENT
IMPORTANT-READ CAREFULLY:
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and the manufacturer ("Manufacturer2) of the special purpose computing device or software ("SYSTEM") you acquired which includes certain Microsoft software product(s) installed on or for use with the SYSTEM ("SOFTWARE").
The SOFTWARE includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
Any software provided along with the SOFTWARE that is associated with a separate end-user license agreement or separate terms of use is licensed to you under the terms of that license agreement or terms of use rather than this EULA.
By installing, copying, downloading, accessing or otherwise using the SOFTWARE, you agree to be bound by the terms of this EULA.
If you do not agree to the terms of this EULA, Manufacturer and Microsoft Licensing, GP ("MS") are unwilling to license the SOFTWARE to you.
Yes
No

Note Unless you agree these terms, you cannot use EXPRESSBUILDER.

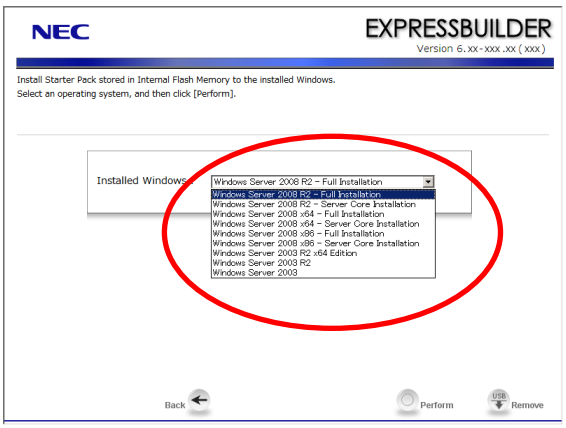
6. Select **Invoke various utilities** from Top Menu of EXPRESSBUILDER, and then click [Next].


NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To invoke each function, select the radio button, and then click [Next].
If [Remove] is clicked, you can remove USB devices inserted into this computer safely.
Setup this computer
Invoke various utilities
Configure EXPRESSBUILDER settings
Exit EXPRESSBUILDER
Next
Remove

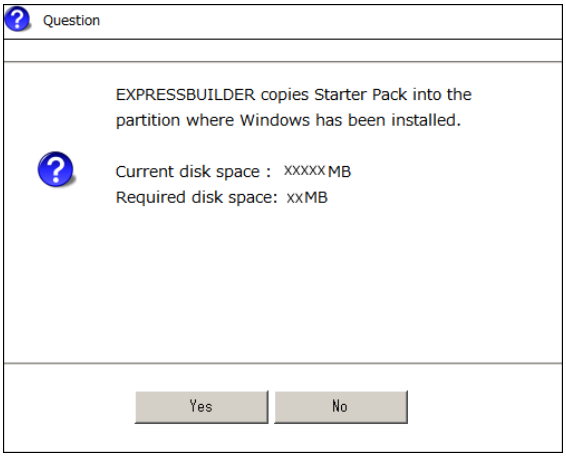
7. Select **Install Starter Pack to installed Windows** and then click [Next].



8. Select the installed Windows from the drop-down list, and then click [Perform].

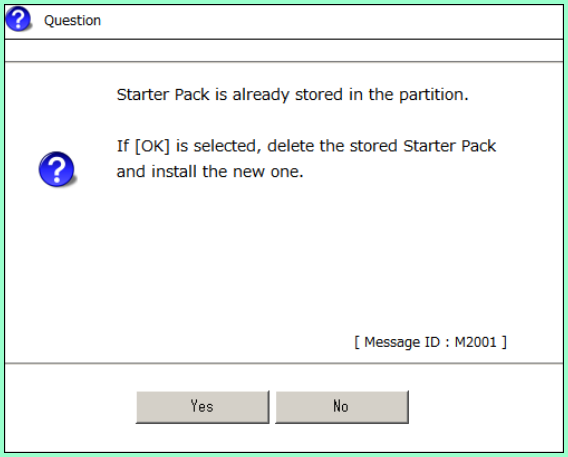

NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
Install Starter Pack stored in Internal Flash Memory to the installed Windows.
Select an operating system, and then click [Perform].
Installed Windows:
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Full Installation
Windows Server 2008 R2 - Server Core Installation
Windows Server 2008 x64 - Full Installation
Windows Server 2008 x64 - Server Core Installation
Windows Server 2008 x86 - Full Installation
Windows Server 2008 x86 - Server Core Installation
Windows Server 2003 R2 x64 Edition
Windows Server 2003 R2
Windows Server 2003
Back
Perform
Remove

9. Read the message and then click [Yes].

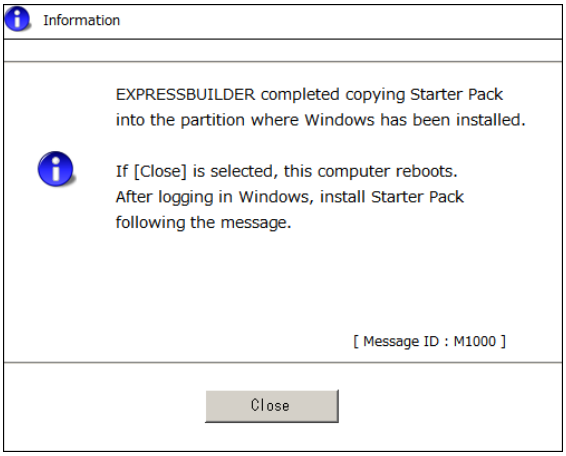

Question
EXPRESSBUILDER copies Starter Pack into the partition where Windows has been installed.
Current disk space : XXXXX MB
Required disk space: XX MB
Yes
No

Note

The following window will appear if Starter Pack is already installed.
Read the message, and then click [Yes].


Question
Starter Pack is already stored in the partition.
If [OK] is selected, delete the stored Starter Pack and install the new one.
[Message ID : M2001]
Yes
No

10. After copying the files, the following window appears. Click [Close].


Information
EXPRESSBUILDER completed copying Starter Pack into the partition where Windows has been installed.
If [Close] is selected, this computer reboots. After logging in Windows, install Starter Pack following the message.
[Message ID : M1000]
Close

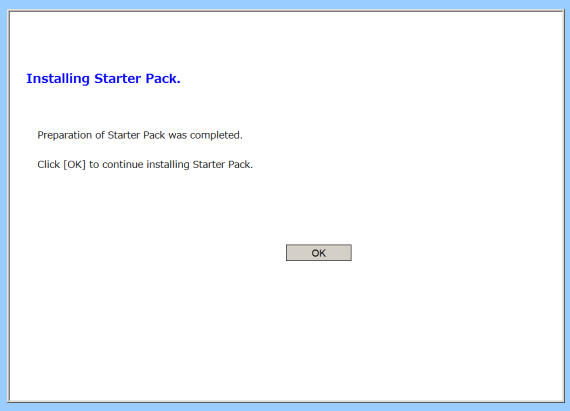
The server restarts.

Note You do not need to press <F3> key at this time.

11. Log on to the system with a user account that has administrative privileges (such as Administrator).

Important

The screen as shown below appears when Windows starts. Do not click [OK] on this screen. Proceed to Step 12.

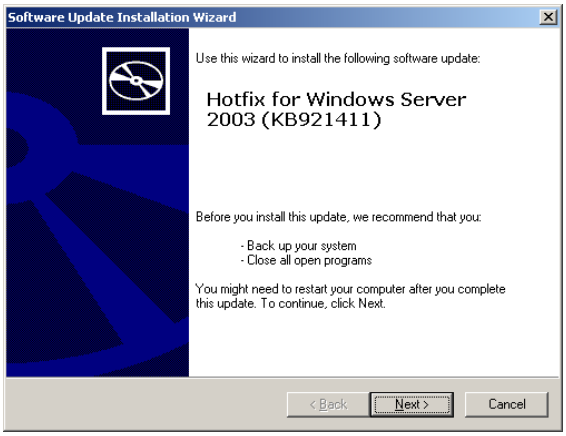


If you click [OK], "KB921411" will not be applied.
Go to Step 16, and click [Cancel] on the screen to install Starter Pack. Then, perform from Step 1 of *(2) When using Internal Flash Memory*.

If you installed the Windows Server 2003 with Service Pack 2, go to step 15.

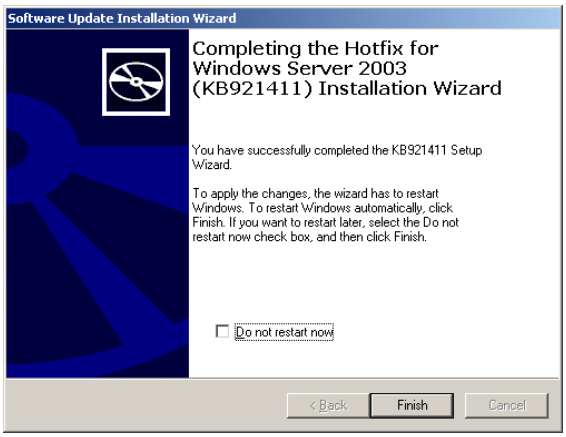
12. Select **Run** from the **Start** menu, and then execute the following command:
System drive:\StartPKG\dotnet\qfe\enu\kb921411.exe

13. When the following message appears, click [Next].


Software Update Installation Wizard
Use this wizard to install the following software update:
Hotfix for Windows Server 2003 (KB921411)
Before you install this update, we recommend that you:
- Back up your system
- Close all open programs
You might need to restart your computer after you complete this update. To continue, click Next.
< Back
Next >
Cancel

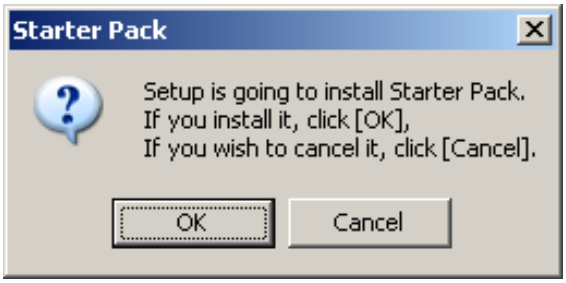
After this, continue installation according to the onscreen messages.

14. When the following message appears, click [Finish] to restart the system.


Software Update Installation Wizard
Completing the Hotfix for Windows Server 2003 (KB921411) Installation Wizard
You have successfully completed the KB921411 Setup Wizard.
To apply the changes, the wizard has to restart Windows. To restart Windows automatically, click Finish. If you want to restart later, select the Do not restart now check box, and then click Finish.
Do not restart now
< Back
Finish
Cancel

15. After Windows starts, the following window appears. Click [OK].

16. Read the message, and then click [OK].


Starter Pack
Setup is going to install Starter Pack.
If you install it, click [OK],
If you wish to cancel it, click [Cancel].
OK
Cancel

Tips

Although it may take several minutes for the above window to appear, wait for the window to appear without attempting any further operation.

Installation of Starter Pack starts.

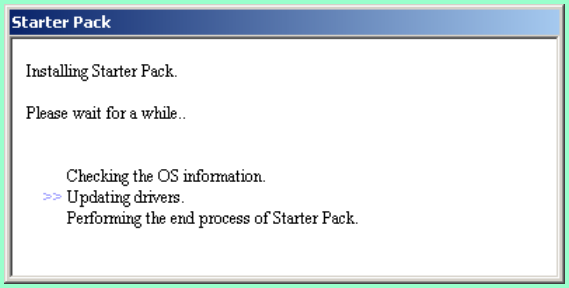
Important

The dialog box shown below might appear while installing Starter Pack, but this does not affect the installation. This dialog box disappears after several seconds. Do not click [Cancel].

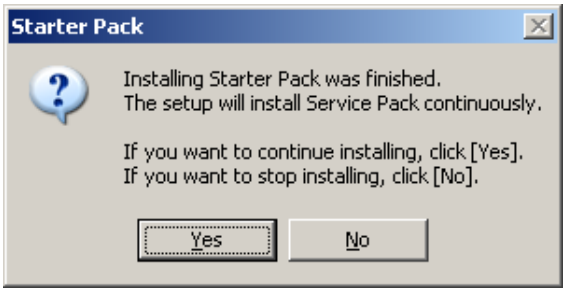
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Note

The following progress message appears while Starter Pack is being installed. Wait a moment until the update is complete.


Starter Pack
Installing Starter Pack.
Please wait for a while..
Checking the OS information.
>> Updating drivers.
Performing the end process of Starter Pack.

When the following message appears, Starter Pack installation is complete.


Starter Pack
Installing Starter Pack was finished.
The setup will install Service Pack continuously.
If you want to continue installing, click [Yes].
If you want to stop installing, click [No].
Yes
No

To apply the Service Pack, click [Yes] and go to step 17.

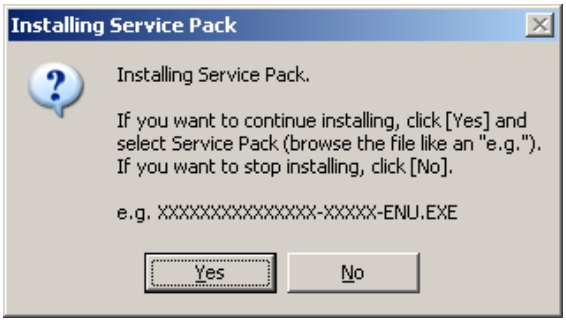
To not apply the Service Pack, click [No] and go to step 19.

Important

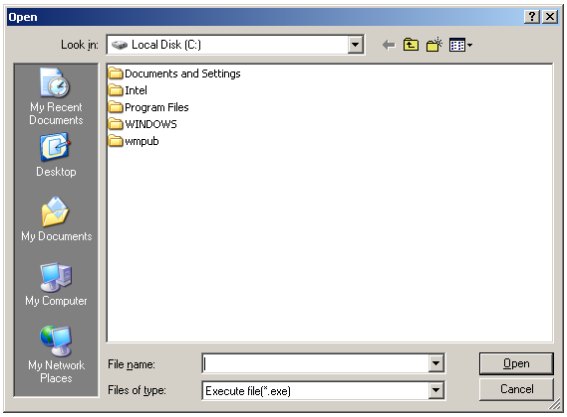
If you are using OS installation media that does not contain Service Pack 2, click [Yes]. You must apply Service Pack 2.

If Starter Pack is being reinstalled in an environment where Service Pack 2 has already been installed, you do not need to reinstall Service Pack 2.

17. When the following message appears, click [Yes].


Installing Service Pack
Installing Service Pack.
If you want to continue installing, click [Yes] and select Service Pack (browse the file like an "e.g.").
If you want to stop installing, click [No].
e.g. XXXXXXXXXXXXXXX-XXXXX-ENU.EXE
Yes
No

18. When the following dialog box appears, specify the Service Pack to install and then click [Open].

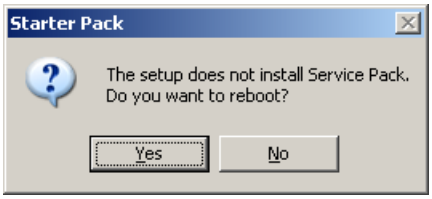


Tips

- When the window above appears, insert the Service Pack CD-ROM into the optical disk drive.
- The extension of the Service Pack applicable to Starter Pack is `*.exe` or `*.msu`. No other Service Pack files can be installed.

Installation of the specified Service Pack starts.
When the Service Pack installation completion window appears, restart the system.

19. When the following message prompts you to restart the system, click [Yes].



Installation of Starter Pack is now complete.

6.4.2 Recovery process

If Windows Server 2003 hotfix: KB921411 is not applied before installing Starter Pack, "!" might be displayed on the USB root hub in the Device Manager window.

In this case, apply Windows Server 2003 hotfix: KB921411 and install Starter Pack according to the procedure below.

1. Start Windows Explorer, and then select **Folder Options** from the **Tool** menu.
2. In the **Advanced settings** area on the **View** tab, select the **Show hidden files and folders** option button for **Hidden files and folders** under **Files and Folders**.
3. Clear the following check boxes under **Files and Folders**, and then click [OK].
   - Hide extensions for known file types
   - Hide protected operating system files (recommended)

   When the message "You have chosen to display protected operating system files…" appears, click [Yes].
4. Check the files.
   Open the `drivers` folder under *`System drive`*`:\WINDOWS\system32`, and make sure that `usbhub.sys` and `usbport.sys` are stored in the folder.
   If a file is missing, copy the target file(s) according to the procedure below.
   (1) Open the `dllcache` folder under *`System drive`*`:\WINDOWS\system32`.
   (2) Copy the `usbhub.sys` and/or `usbport.sys` to the drivers folder under *`System drive:`*`\WINDOWS\system32`.
5. Restart the system.
6. Refer to *Chapter 1 (6.3.1 Procedure to apply Windows Server 2003 hotfix: KB921411)* to install Starter Pack.
7. Restart the system.

The recovery process is now complete.

Note If the system files and hidden files still do not display, select the check boxes that were cleared in step 3.

6.5 Setting Up Device Drivers

Install and set up device drivers provided for the standard configuration.
For details regarding the installation and setup of an optional device driver, refer to the manual supplied with the optional device.

6.5.1 Installing the LAN and BACS (teaming) drivers

(1) LAN and BACS drivers

If EXPRESSBUILDER is used for setup, the LAN and BACS driver will automatically be installed.
If the OS standard installer is used for setup, install Starter Pack to install the LAN and BACS driver.

Important

- **To use the BACS, Microsoft .NET Framework Version 2.0 must be installed. To install Microsoft .NET Framework 2.0, insert EXPRESSBUILDER DVD to the optical disk drive, select *Setup Windows* and then *Install the .NET Framework Ver2.0 Redistributable Package(x86)* from the autorun menu.**
- **WOL is supported by the standard network adapters only.**

Note

- To change the LAN or BACS driver settings, log on to the system from a local console using an administrator's account. Remotely changing the settings by using the operating system's remote desktop feature is not supported.
- Be sure to select the **Internet Protocol (TCP/IP)** check box when specifying an IP address.

(2) Optional LAN board / Riser Card

This server supports the following optional LAN boards / Riser Card.
The drivers for LAN boards / Riser Card are automatically installed using the OS plug-and-play function.

Optional LAN boards: N8104-132/138

Optional Riser Card: N8104-135

If [! Ethernet Controller] is displayed in Device Manager after LAN card or riser card has been installed, you need to install the driver in the following procedure.

1. Set EXPRESSBUILDER DVD in optical disk drive.

   When the Autorun menu appears, close the window.

   Tips

   If you apply Starter Pack from Internal Flash Memory, you do not need to set EXPRESSBUILDER DVD.

2. Launch **Device Manager**, and double-click [! Ethernet Controller].

   The [Ethernet Controller Properties] appears.

3. Click [Update Driver] in [Driver] tab.

   [Hardware Update Wizard] appears.

4. Select [No, do not connect now.], and click [Next].
5. Select [Install from a list or specific location], and click [Next].

6. Select [Search for the best driver in these locations], and [Include this location in the search]. Enter the following location and click [Next].

   ● **When using EXPRESSBUILDER DVD:**

   Optical diskdrive:\021\win\winnt\dotnet\lan\bcom\drvinst\14060401\ia32\win2003\ia32

   ● **When applying Starter Pack from Internal Flash Memory:**

   System drive: \StartPKG\dotnet\lan\bcom\drvinst\14060401\ia32\win2003\ia32

   Note Be sure to uncheck the [Search removable media (floppy, CD-ROM...)] check box, if checked.

7. Click [Finish].
8. When you have applied LAN driver to every [! Ethernet Controller], remove EXPRESSBUILDER DVD from the optical disk drive, and restart the system.

Installing Starter Pack now completes.

Important **[! Ethernet Controller] may not be displayed in Device Manager after LAN card or riser card has been installed. In such a case, the LAN driver is installed automatically. Make sure that the network adapter name for LAN card/riser card is found on [(Network Adapter Name)] under [Network Adapters] tab.**

(3) Network adapter name

After installing the LAN drivers, the following network adapter names will be displayed by the Device Manager or BACS.

Network adapters for the standard configuration
Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional LAN board:
[N8104-132/138] Broadcom NetXtreme Gigabit Ethernet #xx*

If connecting with an optional Riser Card:
[N8104-135] Broadcom NetXtreme Gigabit Ethernet #xx*

* If there are adapters with the same name, a different identification number will be assigned to *xx*.

6.5.2 Setting up LAN drivers

(1) Setting link speed

The transfer rate and duplex mode of the network adapter must be the same as those of the switching hub. Follow the procedure below to specify the transfer rate and duplex mode.

1. Open the **Device Manager**.
2. Expand **Network Adapters**, and then double-click the name of the network adapter you want to set. The properties of the network adapter will be displayed.
3. Select the **Advanced** tab, and then set the **Speed & Duplex** values to the same as those of the switching hub.
4. Click [OK] in the Network Adapter Properties dialog box.
5. Restart the system.

The link speed setting is now complete. Proceed to set up WOL.

6.5.3 Setting up team/LiveLink

Note

- You must set up LiveLink when setting up a team. Teams that are not configured for LiveLink are not supported.
- When deleting the team, refer to *Chapter 1 (6.4.3 Setting up team/LiveLink) - (4) Procedure for deleting team*. When replacing the motherboard or a LAN board, follow these steps to remove the team and create it again after replacement.
- Be sure to specify the same Jumbo Mtu (Jumbo Packet) setting to all the adapters that compose a team.

(1) Team types

The following team types are supported.

- Smart Load Balancing and Failover (without Standby Member)
  All adapters that compose the team perform communication.
  If a communication failure occurs on an adapter, other adapters that compose the team continue the communication.
  When the adapter on which the communication failure occurred recovers, it joins the team again and resumes the communication.
- Smart Load Balancing (Auto-Failback Disable) (with Standby Member)
  Among the adapters that compose the team, primary adapters except the standby member perform communication.
  If a communication failure occurs, the standby member continues the communication.
  When the adapter on which the communication failure occurred recovers, it joints the team again and the standby adapter returns to the standby state.

(2) LiveLink

LiveLink is a function that detects communication route failures of adapters.
It periodically investigates the communication status of specified destinations (IP address).

Link packets are sent from each adapter within a team.
If a response to the transmission of a link packet within the specified range is not detected, it is identified as a communication route failure and adapter communication is stopped.

When a response to the submission of a link packet is detected, communication LiveLink identifies communication as having been recovered, and communication using that adapter automatically resumes.

Note

You must set up LiveLink when you create a team.

(3) Setting up team/LiveLink

Note

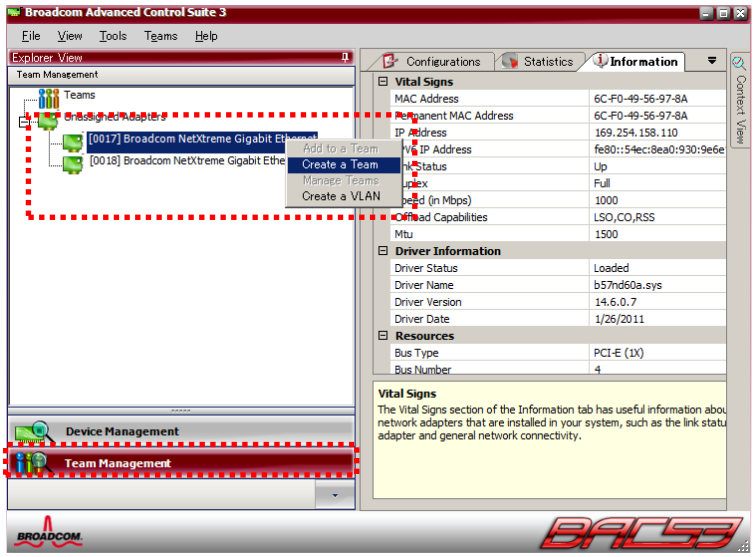
- The team must be composed of two adapters.
- Possible combinations of network adapters that compose the team are as follows.
  - Between standard network adapters.
  - Between LAN board and Riser Card
  - A standard network adapter and LAN boards / Riser Card

Tips

To edit a team, right-click on the BACS team, and then select **Edit TEAM**.

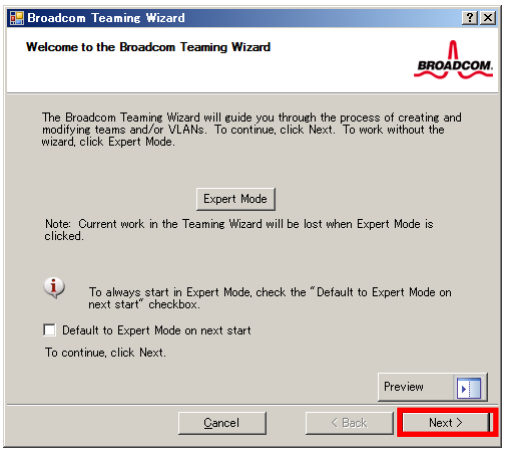
Then refer to step 3 and later in *Chapter 1 (6.4.3 Setting up team/LiveLink) - (3) Setting up team/LiveLink* to edit the team.

1. Double-click the **Broadcom Control Suite3** icon on the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Select **Team Management** from the left menu, right-click the adapter to be used for the team, and then select **Create a Team** from the short-cut menu.



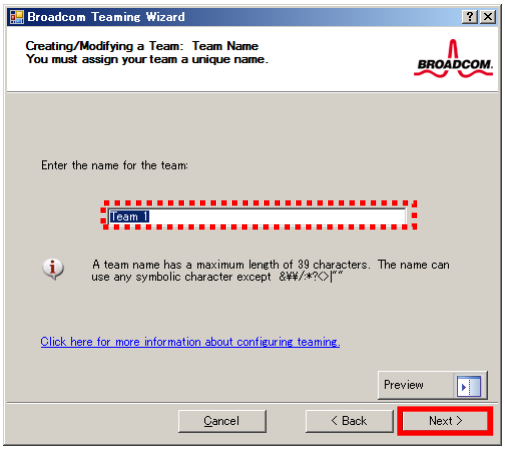
The **Broadcom Teaming wizard** appears.

3. Click [Next].

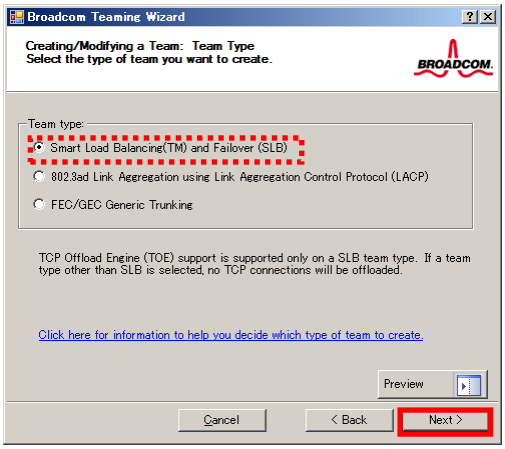

Broadcom Teaming Wizard
Welcome to the Broadcom Teaming Wizard
BROADCOM.
The Broadcom Teaming Wizard will guide you through the process of creating and modifying teams and/or VLANs. To continue, click Next. To work without the wizard, click Expert Mode.
Expert Mode
Note: Current work in the Teaming Wizard will be lost when Expert Mode is clicked.
To always start in Expert Mode, check the "Default to Expert Mode on next start" checkbox.
Default to Expert Mode on next start
To continue, click Next.
Preview
Cancel
< Back
Next >

Note **Do not use Expert Mode.**

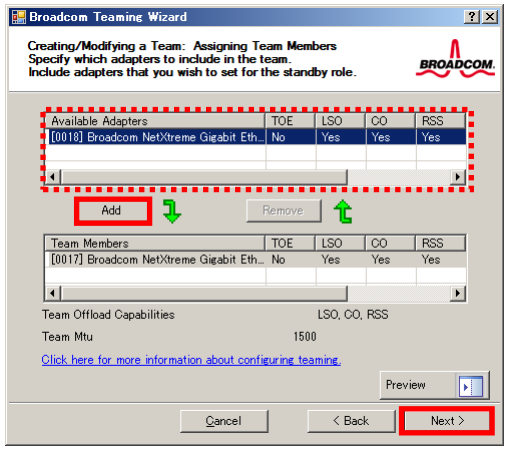
4. Enter any name into the team name entry column, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Name
You must assign your team a unique name.
BROADCOM.
Enter the name for the team:
Team 1
A team name has a maximum length of 39 characters. The name can use any symbolic character except &¥#/*?<>|"
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

5. Make sure that the following team type is selected, and then click [Next].
   Team type: Smart Load Balancing (TM) and Failover (SLB)


Broadcom Teaming Wizard
Creating/Modifying a Team: Team Type
Select the type of team you want to create.
BROADCOM.
Team type:
Smart Load Balancing(TM) and Failover (SLB)
802.3ad Link Aggregation using Link Aggregation Control Protocol (LACP)
FEC/GEC Generic Trunking
TCP Offload Engine (TOE) support is supported only on a SLB team type. If a team type other than SLB is selected, no TCP connections will be offloaded.
Click here for information to help you decide which type of team to create.
Preview
Cancel
< Back
Next >

6. Select the adapters that compose the team, click [Add] to add them to the **Team Members** area, and then click [Next].

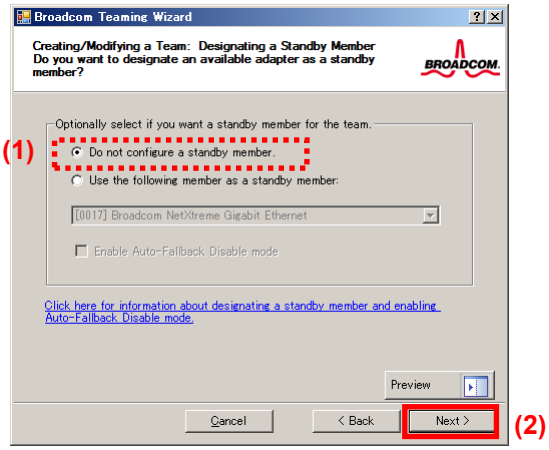


7. Proceed according to your desired team type.

   – Smart Load Balancing and Failover (without Standby Member)

      (1) Select **Do not configure a standby member**.

      (2) Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
(1)
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Fallback Disable mode
Click here for information about designating a standby member and enabling Auto-Fallback Disable mode.
Preview
Cancel
< Back
Next >
(2)

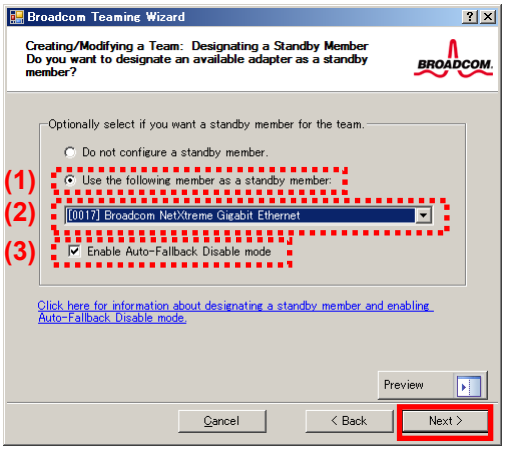
– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)

(1) Select **Use the following member as a standby member**.

(2) Select the adapter that is to be a standby member from the drop-down list.

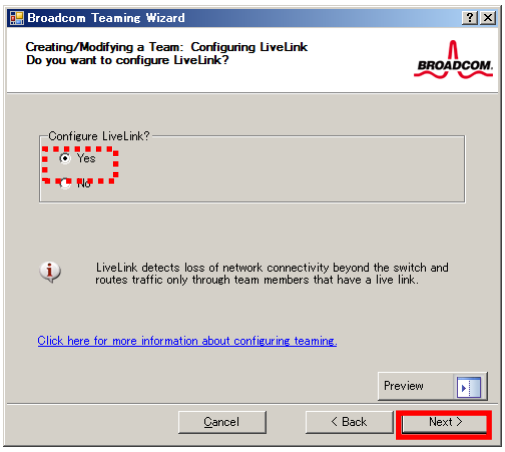
(3) Select **Enable Auto-Failback Disable mode**.

(4) Click [Next].

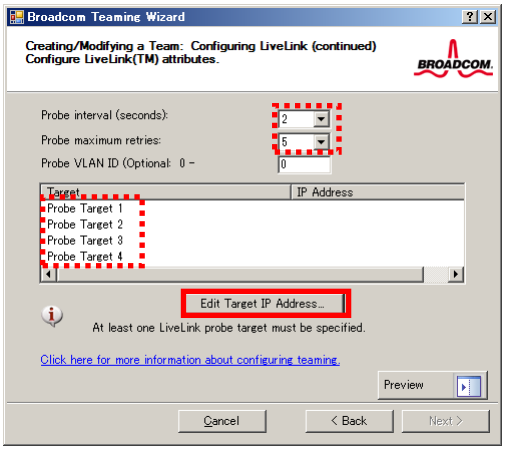

Broadcom Teaming Wizard
Creating/Modifying a Team: Designating a Standby Member
Do you want to designate an available adapter as a standby member?
BROADCOM.
Optionally select if you want a standby member for the team.
Do not configure a standby member.
Use the following member as a standby member:
[0017] Broadcom NetXtreme Gigabit Ethernet
Enable Auto-Failback Disable mode
(1)
(2)
(3)
Click here for information about designating a standby member and enabling Auto-Failback Disable mode.
Preview
Cancel
< Back
Next >
(4)

Note *Enable Auto-Failback Disable mode* is cleared while editing the team. Select it again.

8. Select **Yes** for **Configure LiveLink?**, and then click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink
Do you want to configure LiveLink?
BROADCOM.
Configure LiveLink?
Yes
No
LiveLink detects loss of network connectivity beyond the switch and routes traffic only through team members that have a live link.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

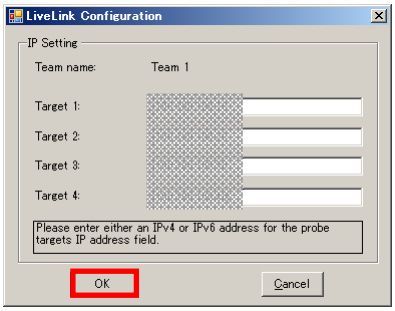
9. You can use the default setting for **Probe interval** and **Probe maximum retries**. If you change these values, select a value from each drop-down list, click the target probe (**Probe Target *xx***), and then click [Edit Target IP Address…].



Tips

- The setting range of Probe interval (link packet transmission interval) is 1 to 60 (units: seconds).
- The setting range of Probe maximum retries (link packet retry count) is 1 to 10 (times).
- Switching a path upon detection of a communication path error by LiveLink takes (Probe maximum retries + 1) x Probe interval (seconds) at maximum.
  If an optional LAN board detects that a link is down, failover occurs immediately after the link goes down. It takes the time specified for Probe interval (seconds) to recover from the link going down.

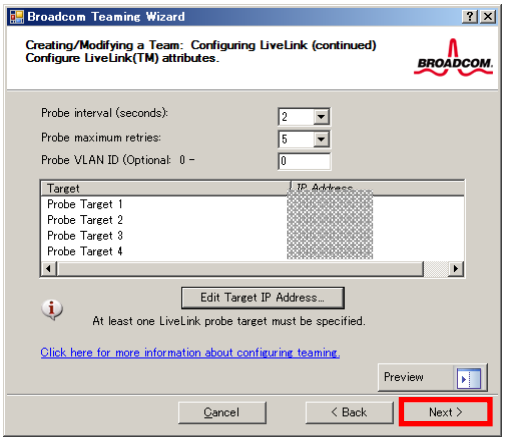
10. In the **Target *xx*** text box, enter the IP address of the alive monitoring server, and then click [OK].



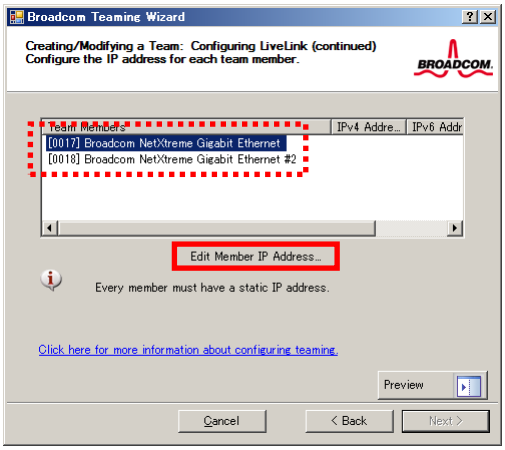
Note

- *Target xx* must be the same broadcast domain as that specified for the data communication IP and LiveLink communication IP (described in step 13). Specify an IP address that exists on the network and with which communication is possible.
- If communication with the IP address specified in *Target xx* is not possible, the team will also be unable to communicate. It is therefore recommended that you specify multiple IP addresses using *Probe Target*. Up to four IP addresses can be specified.

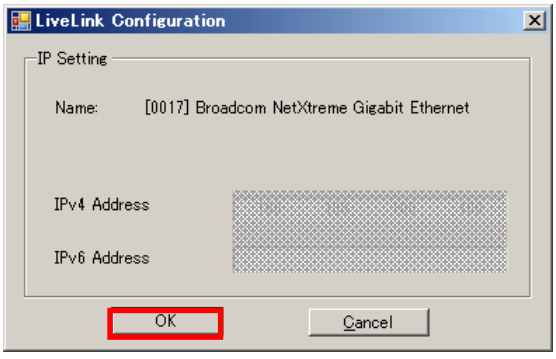
11. Click [Next].



12. Select an adapter from the **Team Members** area, and then click [Edit Member IP Address…].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Addre...
IPv6 Addr
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

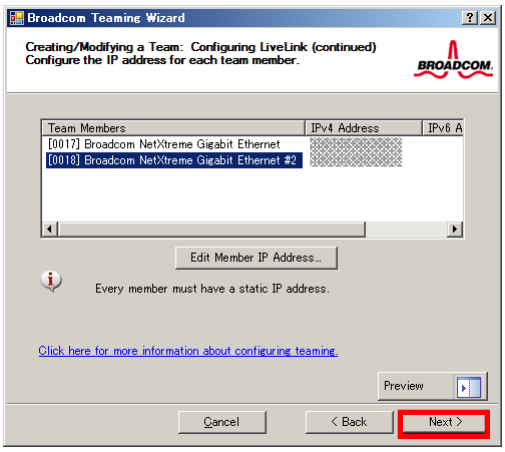
13. Enter the IP address used for LiveLink communication, and then click [OK].



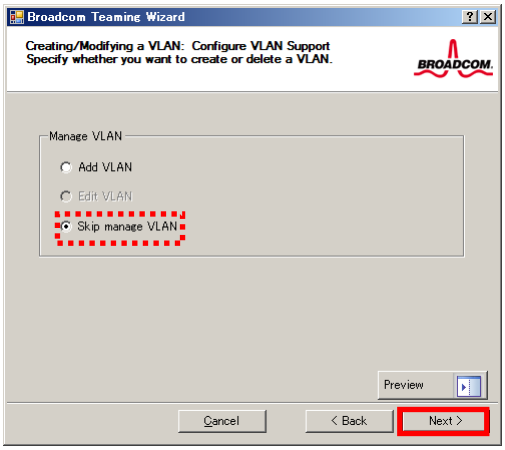
Note

- Be sure to specify an IP address for LiveLink communication for all the adapters that compose the team. The address specified here is the IP address for LiveLink communication. Specify a different IP address for data communication.
- For *Target xx*, specify an IP address that is unique on the network and with which communication is possible.

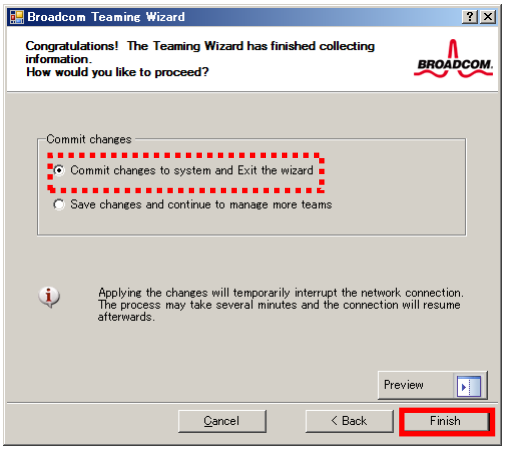
14. Click [Next].


Broadcom Teaming Wizard
Creating/Modifying a Team: Configuring LiveLink (continued)
Configure the IP address for each team member.
BROADCOM.
Team Members
IPv4 Address
IPv6 A
[0017] Broadcom NetXtreme Gigabit Ethernet
[0018] Broadcom NetXtreme Gigabit Ethernet #2
Edit Member IP Address...
Every member must have a static IP address.
Click here for more information about configuring teaming.
Preview
Cancel
< Back
Next >

15. Make sure that **Skip manage VLAN** is selected under **Manage VLAN**, and then click [Next].



16. Make sure that **Commit changes to system and Exit the wizard** is selected under **Commit changes**, and then click [Finish].


Broadcom Teaming Wizard
Congratulations! The Teaming Wizard has finished collecting information.
How would you like to proceed?
BROADCOM.
Commit changes
Commit changes to system and Exit the wizard
Save changes and continue to manage more teams
Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards.
Preview
Cancel
< Back
Finish

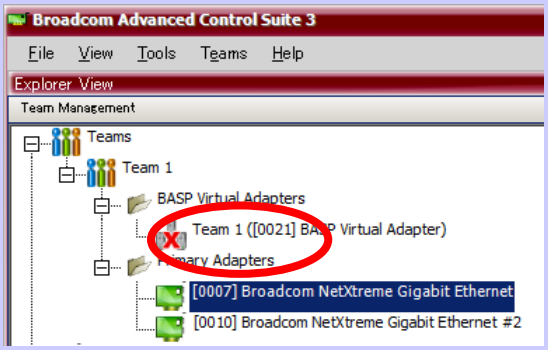
Note

When the message below appears, select [Yes].

"Applying the changes will temporarily interrupt the network connection. The process may take several minutes and the connection will resume afterwards. Do you want to continue?"

Tips

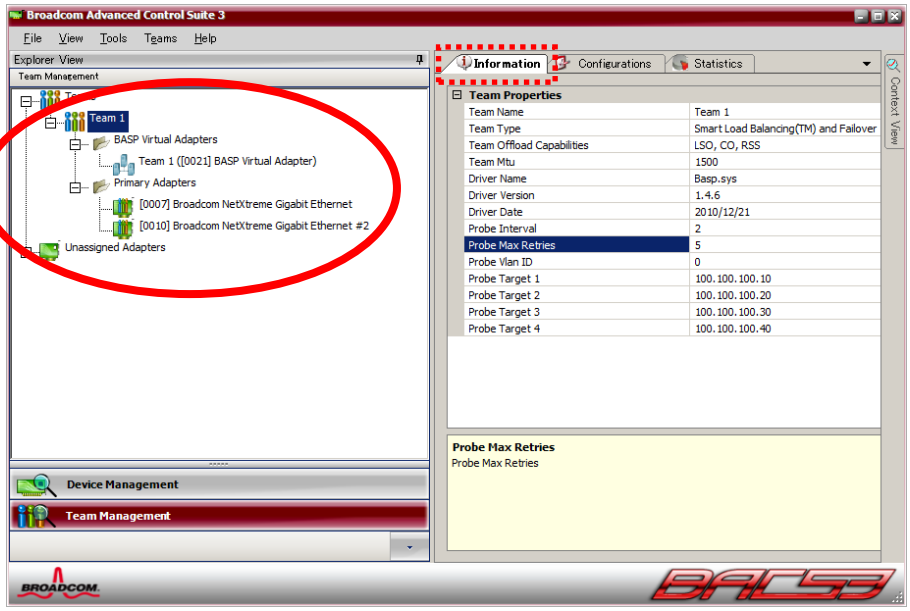
After creating a team, if the teaming adapter displays like the following image, perform steps 8 through 14 again and correct the LiveLink settings.



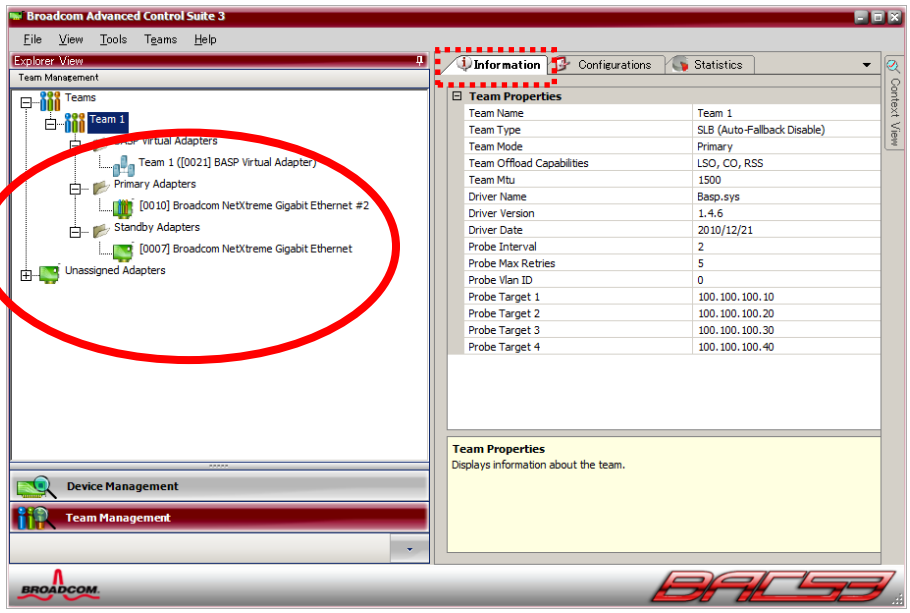
17. Restart the system.

18. After the system starts, follow step 1 to start **Broadcom Control Suite3** and confirm that a team has been created. Confirm the team settings on the **Information** window to the right.

– Smart Load Balancing and Failover (without Standby Member)



– Smart Load Balancing (Auto-Failback Disable) (with Standby Member)



Team setup is now complete.

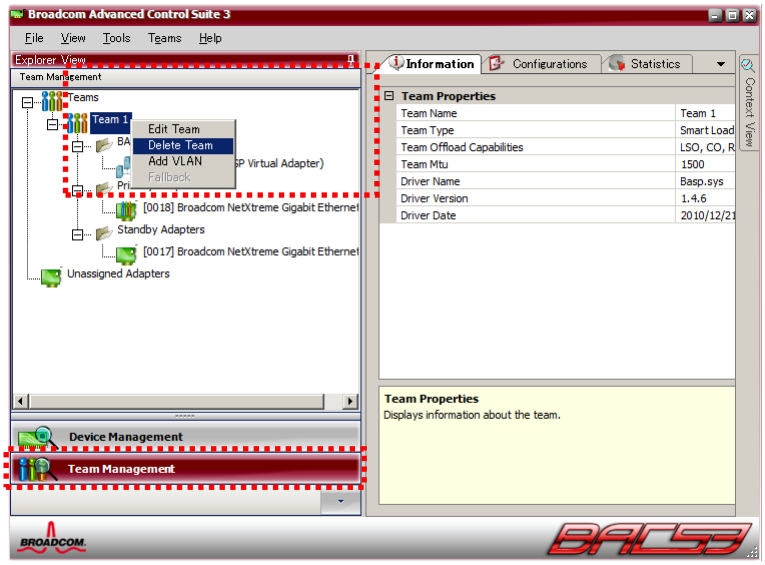
(4) Procedure for deleting team

Note

You must delete teams from Broadcom Control Suite3.

You cannot delete the team from the team adapter displayed in the Device Manager.

1. Double-click **Broadcom Control Suite3** in the Control Panel window.
   Broadcom Advanced Control Suite3 starts.
2. Click **Team Management** from the left menu, right-click the team name under **Teams**, and then select **Delete Team** from the short-cut menu.



Note

When the message below appears, select [Yes].

```
"The selected team will be deleted from system, do you want to
proceed?
   NOTE:  Applying the changes will temporarily interrupt the
          network connection. The process may take several
          minutes and the connection will resume afterwards."
```

3. Insert EXPRESSBUILDER DVD into the optical disk drive.
   If an autorun menu appears, close the menu window.

Important

You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory. Proceed to the next step.

4. Double-click `addlvlanstats.vbs` in the following folder.

   – When using EXPRESSBUILDER DVD:
   Optical disk drive:\021\win\winnt\dotnet\lan

   – If Starter Pack was installed from Internal Flash Memory:
   System drive:\StartPKG\dotnet\lan

5. When the following message appears, click [OK].

6. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

Team deletion is now complete.

6.5.4 Graphics accelerator driver

The graphics accelerator driver for standard configurations is installed when Starter Pack is installed from EXPRESSBUILDER.

To reinstall drivers separately, complete the following steps.

1. Insert EXPRESSBUILDER DVD into the optical disk drive.

   If an autorun menu appears, close the menu window.

   Tips You do not have to insert EXPRESSBUILDER DVD if Starter Pack was installed from Internal Flash Memory.

2. From the **Start** menu, point to **All programs**, **Accessories**, and then select **Explorer**.
3. Double-click the **install.bat** icon in the following folder.
   When using EXPRESSBUILDER DVD:
   Optical disk drive: \021\win\winnt\dotnet\video

   If Starter Pack was installed from Internal Flash Memory:
   System drive:\StartPKG\dotnet\video

   You will be prompted to confirm the End User License Agreement during this process. Click the [ACCEPT] button and continue.
4. Eject EXPRESSBUILDER DVD from the optical disk drive, and then restart the system.

6.5.5 When using a SCSI controller (N8103-107)

The driver for SCSI controller is installed when you apply "Starter Pack".

If you setup the server using EXPRESSBUILDER while the SCSI controller N8103-107 is connected, the driver for SCSI controller is installed automatically.

6.5.6 When using a SAS controller (N8103-104A/142)

The driver for SAS controller is installed when you apply "Starter Pack".

If you setup the server using EXPRESSBUILDER while the SAS controller N8103-104A/142 is connected, the driver for SAS controller is installed automatically.

6.5.7 When using a RAID Controller (N8103-160)

The driver for RAID Controller is installed when you apply "Starter Pack".

If the server is setup with EXPRESSBUILDER, the driver for RAID Controller is installed automatically.

Also if RAID Controller (N8103-149/150/151/160) is already used, the driver is automatically installed.

6.6 Specifying PAE Option

If the server can mount a memory of more than 4 GB in a 32-bit system, specify the PAE option settings to use that memory.

Important

The PAE option is not supported by all products.
Refer to the following knowledge base to confirm whether your product supports the PAE option:

KB291988
A description of the 4 GB RAM Tuning feature and the Physical Address Extension parameter

For Windows Server 2003, the PAE option can be specified by editing the `Boot.ini` file. The following shows an example of editing the `Boot.ini` file.

1. From the **Start** menu, point to **Settings** and then click **Control Panel**.
2. Double-click the **System** icon in the Control Panel window.
   The System Properties dialog box appears.
3. Select the **Advanced** tab, and then click [Settings] under **Startup and Recovery**.
4. Click [Edit] in the **System startup** area on the Startup and Recovery dialog box, and then open the `Boot.ini` file.
5. Add `/PAE` to `operating systems`, and then save the `Boot.ini` file.
   `Boot.ini` example:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(2)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Windows Server 2003"
/fast detect
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Windows Server 2003,
PAE" /fastdetect/PAE
C:\CMDCONS\BOOTSECT.DAT="Microsoft Windows Recovery Console" /cmdcons
```

Editing of the `Boot.ini` file is now complete.

Tips

You can specify an OS to start up automatically from the **Default operating system** drop-down list in the Startup and Recovery dialog box.

6.7 Installing the Bundled Software

The supplied EXPRESSBUILDER DVD contains the server monitoring software NEC ESMPRO Agent and system management software NEC ESMPRO Manager. Refer to *Chapter 2 Installing the Bundled Software* to install the software separately.

Tips

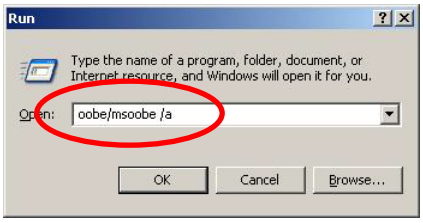
Some utilities should be installed into PC for Management on the network. For details, refer to *Chapter 2 Installing the Bundled Software*.

6.8 License Authentication

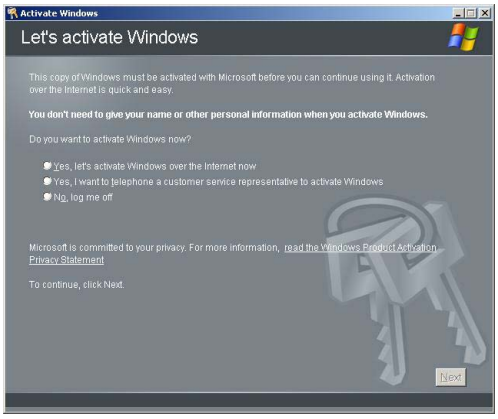
To use Windows Server 2003, the license must be authenticated in advance. The following describes the license authentication procedure.

Tips Following this procedure is not required if you use Backup CD-ROM for installation.

1. Select **Run** from the **Start** menu.
   Enter the following to the **Open** text box, and then click [OK].
   `oobe/msoobe /a`



2. When the following message appears, click [Next].


Activate Windows
Let's activate Windows
This copy of Windows must be activated with Microsoft before you can continue using it. Activation over the Internet is quick and easy.
You don't need to give your name or other personal information when you activate Windows.
Do you want to activate Windows now?
Yes, let's activate Windows over the Internet now
Yes, I want to telephone a customer service representative to activate Windows
No, log me off
Microsoft is committed to your privacy. For more information, read the Windows Product Activation Privacy Statement
To continue, click Next.
Next

   The following message appears.

3. Follow the instructions in the following message to start the license authentication process.

Activate Windows
Activate Windows by phone
Just four steps, and you're done...
Step 1: Select your location
Step 2: Call a number below to speak with a customer service representative:
Toll-free number:
Toll number:
Step 3: Provide the customer service representative with the following installation ID:
000000-000000-000000-000000-000000-000000-000000-000000-000000
(Click Change product key only if requested to do so by the customer service representative)
Step 4: Type the confirmation ID that the customer service representative gave you:
A B C D E F G
To continue, click Next.
Back
Change Product key
Remind Me Later
Next

   License authentication is now complete.

6.9 Reinstallation When Multiple Logical Drives Exist

Before starting reinstallation, backup data for future use in case of data loss.

Important **Before starting setup, be sure to disconnect hard disk drives from the RAID Controller that is not to be setup. Install those hard disk drives after setup has completed. Conducting setup with hard disk drives being connected with RAID Controller may cause existing data to be erased unintentionally.**

(1) Reinstallation process

Setup with EXPRESSBUILDER

Refer to *Chapter 1 (6.2 Setup with EXPRESSBUILDER)*, and proceed with setup.
In this case, EXPRESSBUILDER installs the Windows on the first detected hard disk drive or logical drive.

Setup with OS standard installer

1. Refer to *Chapter 1 (6.3 Setup with OS Standard Installer)*, and start setup.
2. When the following message appears, select the partition to which you want to set up the operating system.

```
The following list shows the existing partitions and
unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the
list.
```

Important **You cannot edit the drive letters for the system volume or boot volume after setup is complete. Make sure that the drive letters assigned in this window are correct, and then proceed with setup.**

3. Follow the steps to proceed with Setup with OS standard installer.

Reinstallation is now complete.

Tips The drive letter might change after reinstallation. If you want to change the drive letter, use the procedure shown in *Changing drive letter assignments* below.

(2) Changing drive letter assignments

To change the drive letter, follow the steps below. But these steps cannot change drive letter assignments for the system volume or boot volume. If you want to change them, re-install the Windows.

1. From the **Start** menu, right-click **My Computer** and then select **Management**. Next, launch **Computer Management**.
2. From the window on the left, select **Disk Management**.
3. Right-click the volume whose drive letter you want to change, and then select **Change drive letter and path**.
4. Click [Change].
5. Click [Assign next drive letter], and then select the drive letter you want to assign.

6. Click [OK].
7. When the following message appears, read the contents and then click [OK].

> **Changing the drive letter of a volume might cause programs to no longer run. Are you sure you want to change this drive letter?**

8. Close the Computer Management window.

Changing drive letter assignments is now complete.

7. Setup for Solving Problems

This section describes the features that must be set up in advance so that the server can recover from any trouble immediately and precisely.

7.1 Specifying Memory Dump Settings (Debug Information)

This section describes the procedures for collecting a memory dump (debug information) in the server.

Important

- **Cautions concerning memory dumps**
  Memory dumps must be collected by a staff member from the maintenance service company. Customers only need to specify the settings for the memory dump.
- **If any trouble occurs after specifying the settings below and you attempt to restart the system to save the memory dump, a message informing you that the system is short of virtual memory might appear. However, this message can be ignored and you can proceed with the restart. If you restart the system a second time, the memory dump might not be stored normally.**

7.1.1 For Windows Server 2008 R2

Follow the procedure below to specify the memory dump settings.

1. Select **Control Panel** from the **Start** menu.
   The Control Panel window appears.
2. Click **System and Security** on the Control Panel window.

   Tips If **View by** is not **Category**, select **System** from **Control Panel** directly.

3. Click **System**.
4. Click **Advanced system settings**.
   The System Properties dialog box appears.
5. Select the **Advanced** tab, and then click [Settings] under **Startup and Recovery**.
6. Specify the folder to store the debug information in the **Dump file:** text box.

   Example: To store the debug information in D drive under the file name `MEMORY.DMP`:
   `D:\MEMORY.DMP`

Note the following when specifying a dump file.

- For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, however, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
- Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB".
- If you attempt to add memory that will cause the mounted memory size to exceed 2 GB, specify Kernel memory dump from the Write debugging information drop-down list before adding the memory. The size of the debug information (memory dump) to be collected

changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

7. Click [Settings] under **Performance**.
   The Performance Options dialog box appears.
8. Click the **Advanced** tab on the Performance Options dialog box.
9. Click [Change] under **Virtual memory**.
10. Clear the **Automatically manage paging file size for all drives** check box, and then select the **Custom size** option button.
11. In the **Paging file size for each drive** group box, specify as follows:

    For the **Initial size** text box, specify a value equal to or greater than the **Recommended** value shown in the **Total paging file size for all drives** area.

    For the **Maximum size** text box, specify a value equal to or greater than the value specified in the **Initial size** text box.

    After specifying the above values, click [Set].

    Note the following when specifying a paging file size.

    - The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the Windows partition paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information might not be able to be collected due to a shortage of virtual memory.
    - For details about the Recommended value in the Total paging file size for all drives area, refer to System partition size in Before Starting Setup. When memory is added, re-specify the paging file according to the increased memory size.

12. Click [OK].

    A message to restart the system might appear, depending on the modifications made.
    In this case, restart the system.

Specification of the memory dump settings is now complete.

7.1.2 For Windows Server 2008

Follow the procedure below to specify the memory dump settings.

1. Select **Control Panel** from the **Start** menu, and then click **System**.
   The System dialog box appears.
2. Click **Advanced system settings**.
   The System Properties dialog box appears.
3. Select the **Advanced** tab, and then click [Settings] under **Startup and Recovery**.
4. Specify the folder to store the debug information in the **Dump file:** text box.

   Example: To store the debug information in D drive under the file name `MEMORY.DMP`:
   `D:\MEMORY.DMP`

   Note the following when specifying a dump file.

   For Windows Server 2008 64-bit (x64) Edition

   - For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, however, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
   - Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB". If you attempt to add memory that will cause the mounted memory size to exceed 2 GB, specify Kernel memory dump from the Write debugging information drop-down list before adding the memory. The size of the debug information (memory dump) to be collected changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

   For Windows Server 2008 32-bit (x86) Edition

   - For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, however, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
   - Specify a drive that has a free space of at least "the memory capacity mounted on the server + 300 MB" (or 2048 MB + 300 MB if the memory size exceeds 2 GB).If you attempt to add memory that will cause the mounted memory size to exceed 2 GB, specify Kernel memory dump from the Write debugging information drop-down list before adding the memory. The size of the debug information (memory dump) to be collected changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

5. Click [Settings] under **Performance**.
   The Performance Options dialog box appears.
6. Click the **Advanced** tab on the Performance Options dialog box.
7. Click [Change] under **Virtual memory**.
8. Clear the **Automatically manage paging file size for all drives** check box, and then select the **Custom size** option button.

9. In the **Paging file size for each drive** group box, specify as follows:

   For the **Initial size** text box, specify a value equal to or greater than the **Recommended** value shown in the **Total paging file size for all drives** area.

   For the **Maximum size** text box, specify a value equal to or greater than the value specified in the **Initial size** text box.

   After specifying the above values, click [Set].

   Note the following when specifying a paging file size.

   - The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information might not be able to be collected due to a shortage of virtual memory.
   - For details about the Recommended value in the Total paging file size for all drives area, refer to System partition size in Before Starting Setup.
   - When memory is added, re-specify the paging file according to the increased memory size.

10. Click [OK].

    A message to restart the system might appear, depending on the modifications made.
    In this case, restart the system.

Specification of the memory dump settings is now complete.

7.1.3 For Windows Server 2003

Follow the procedure below to specify the memory dump settings.

Tips Although the procedure below uses Windows Server 2003 as an example, Windows Server 2003 R2 x64 Edition can be set up using the same procedure.

1. Select **Control Panel** from the **Start** menu, and then click **System**.
   The System Properties dialog box appears.
2. Click the **Advanced** tab.
3. Click [Settings] under **Startup and Recovery**.
4. Specify the folder to store the debug information in the **Dump file:** text box.

   Example: To store the debug information in D drive under the file name `MEMORY.DMP`:
   `D:\MEMORY.DMP`

   Note the following when specifying a dump file.

   For Windows Server 2003 R2 x64 Edition

   - For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, however, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
   - Specify a drive that has a free space of at least "the memory capacity mounted on the server + 1 MB". If you attempt to add memory that will cause the mounted memory size to exceed 2 GB, specify Kernel memory dump from the Write debugging information drop-down list before adding the memory. The size of the debug information (memory dump) to be collected changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

   For Windows Server 2003

   - For the Write debugging information drop-down list, we recommend specifying Complete memory dump. If the mounted memory size is greater than 2 GB, however, Complete memory dump cannot be specified because it is not displayed on the drop-down list. In this case, specify Kernel memory dump instead.
   - Specify a drive that has a free space of at least "the memory capacity mounted on the server + 12 MB" (or 2048 MB + 12 MB if the memory size exceeds 2 GB).If you attempt to add memory that will cause the mounted memory size to exceed 2 GB, specify Kernel memory dump from the Write debugging information drop-down list before adding the memory. The size of the debug information (memory dump) to be collected changes if memory is added. Make sure that the free space of the drive to store the debug information (memory dump) is sufficient.

5. Click [Settings] under **Performance**.
   The Performance Options dialog box appears.
6. Click the **Advanced** tab on the Performance Options dialog box.
7. Click [Change] under **Virtual memory**.

8. For the **Initial size** text box in the **Paging file size for selected drive** group box, specify a value equal to or greater than the **Recommended** value shown in the **Total paging file size for all drives** area, and then click [Set].

   Note the following when specifying a paging file size.

   - The above paging file sizes are recommended for collecting debug information (dump file). The initial size of the boot volume paging file must be large enough to store dump files. Make sure to set a sufficient paging file size. If the paging file size is insufficient, correct debug information might not be able to be collected due to a shortage of virtual memory.
   - For details about the Recommended value in the Total paging file size for all drives area, refer to System partition size in Before Starting Setup. When memory is added, re-specify the paging file according to the increased memory size.

9. Click [OK].
   A message to restart the system might appear, depending on the modifications made. In this case, restart the system.

Specification of the memory dump settings is now complete.

7.2 How to Create a User-mode Process Dump File

7.2.1 For Windows Server 2008 R2 and Windows Server 2008

The user-mode process dump file records information when an application error occurs.

If an application error occurs, obtain user-mode process dump information using the following procedures without closing the pop-up window that reported the error:

1. Right-click an empty area of the taskbar and then click **Task Manager**, or press <Ctrl> + <Shift> + <Esc> keys to start **Task Manager**.
2. Click the **Processes** tab.
3. Right-click the name of the process that you want to obtain dump information for, and then click **Create Dump File**.
4. A dump file for the process is created in the following folder:
   C:\Users*user name*\AppData\Local\Temp

Tips

The folder above may be treated as a hidden folder.

If the folder is not displayed, perform the following:

- For Windows Server 2008 R2:
  Open Explorer, click **Organize** and then **Folder and search options**. Click the **View** tab and then select the **Show hidden files, folders, and drives** check box.
- For Windows Server 2008:
  Open Explorer, select **Folder and search options** from the **Tools** menu. Click the **View** tab and then select the **Show hidden files and folders** option button.

Once the user-mode process dump file has been created, obtain the file from the folder shown in step 4.

For details about how to create a user-mode process dump file, visit the following Microsoft Support web page:
How to create a user-mode process dump file in Windows Server 2008
http://support.microsoft.com/kb/949180

Tips

For Windows Server 2008 R2 and Windows Server 2008, because Dr. Watson is replaced by Problem Reports and Solutions, it is not possible to obtain a crash dump file by executing Dr. Watson. Use the procedure above to obtain information equivalent to a crash dump file.

User-mode process dump file creation is now complete.

7.2.2 For Windows Server 2003 (setting up Dr. Watson)

Dr. Watson for Windows is a debugger for application errors. If an application error is detected, Dr. Watson analyzes the system and records the diagnostic information (log). Follow the procedure below for collecting diagnostic information.

1. Select **Run** from the **Start** menu.
2. Enter `drwtsn32.exe` in the **Open** text box, and then click [OK].
   The Dr. Watson for Windows dialog box appears.
3. Specify the path to save the diagnostic information file in the **Log File Path** text box.
   The diagnostic information file is saved under the file name `DRWTSN32.LOG`.

   Note A network path cannot be specified. Specify a path on the local computer.

4. Specify the path to save the crash dump file into the **Crash Dump** text box.

   Tips A crash dump file is a binary file that can be read by Windows Debugger.

5. For **Crash Dump Type**, select the **Full** option button.
6. In the **Options** group box, select the following check boxes:
   - **Dump Symbol Table**
   - **Dump All Thread Context**
   - **Append To Existing Log File**
   - **Create Crash Dump File**

   For details about the function of each option, refer to the online help.
7. Click [OK].

Dr. Watson setup is now complete.

7.3 Installing Network Monitor

Utilizing Network Monitor helps you investigate and manage network troubles.

7.3.1 For Windows Server 2008 R2 and Windows Server 2008

(1) Setting up Network Monitor

Tips

Windows Server 2008 R2 and Windows Server 2008 do not provide Network Monitor.

To capture network traces on Windows Server 2008 R2 or Windows Server 2008, Microsoft Network Monitor must be installed using the procedure described below.

1. Download Network Monitor from the following Microsoft web page:
   http://support.microsoft.com/kb/933741/en-us
2. Run the downloaded file to start the installer.
   Follow the onscreen instructions to install Network Monitor.

Tips

If the Security Alert message appears, click [Run].
In the setup format selection window, select **Complete**.

Network Monitor installation is now complete.

Tips

To uninstall Network Monitor, use **Programs and Features**.

(2) Capturing network traces

1. Select **Microsoft Network Monitor** from the **Start** menu to start Network Monitor.
2. On the **Start Page** tab, click [Create a new capture tab...]. Or, select **New** from the **File** menu, and then click [Capture…].
   A new tab for capturing network traces is created.
3. On the **Select Networks** pane, select the network whose traces are to be captured.
4. Select **Start** from the **Capture** menu to start capturing the network traces.
5. Select **Stop** from the **Capture** menu to stop capturing the network traces.
6. Select **Save As…** from the **File** menu.
   The Save As dialog box appears. Select **All captured frames** from **Frame selection**, and then enter the folder and file names.

Tips

The default folder is as follows:
`C:\Users\<User name>\Documents\Network Monitor 3\Captures`

7. Click [Save].
   The network trace file is created in the folder specified in step 6.

The setup for capturing network traces is now complete.

7.3.2 For Windows Server 2003

Utilizing Network Monitor helps you investigate and manage network failures.

1. From the **Start** menu, point to **Settings** and then click **Control Panel**.
   The Control Panel window appears.
2. Double-click the **Add/Remove Programs** icon.
   The Add/Remove Programs dialog box appears.
3. Click the **Add/Remove Windows Components** icon.
   The Windows Components Wizard dialog box appears.
4. Select **Management and Monitoring Tools** under **Components**, and then click [Details].
   The Management and Monitoring Tools dialog box appears.
5. Select the **Network Monitor Tools** check box under **Subcomponents of Management and Monitoring Tools**, and then click [OK].
6. The Windows Components Wizard dialog box appears again. Click [Next].
7. When a message prompting you to insert an installation disk appears, insert the required CD into the optical disk drive and then click [OK].

Tips

The message prompting insertion of the disk states that it is required to insert the CD with the label **Service Pack 1 CD-ROM**. For Windows Server 2003 R2, however, insert **Windows Server 2003 R2 DISC 1** into the optical disk drive.

8. Click [Finish] in the Windows Components Wizard dialog box.
9. Click the [Close] button in the Add/Remove Programs dialog box.
10. Close the Control Panel window.

Network Monitor installation is now complete.To start Network Monitor, point to **Programs** and then **Management Tools** from the **Start** menu, and then select **Network Monitor**. For details about how to operate Network Monitor, refer to the online help.

8. Windows OS Parameter File

This section describes a parameter file for Windows OS.

8.1 Creating Windows OS Parameter File

If a parameter file is used when performing Setup with EXPRESSBUILDER, a series of setup procedures from installing of the OS to installing several utilities can be executed automatically just by pressing keys for confirmation.

The settings from the previous installation can also be used when re-installing the system.

It is therefore recommended to use a parameter file to set up the server.

Tips

Windows can be installed without a parameter file.

A parameter file can be created or modified during Setup with EXPRESSBUILDER.

8.1.1 How to create a parameter file

This section describes how to specify the setup information necessary for OS installation and how to create a parameter file.

Follow the procedure described below.

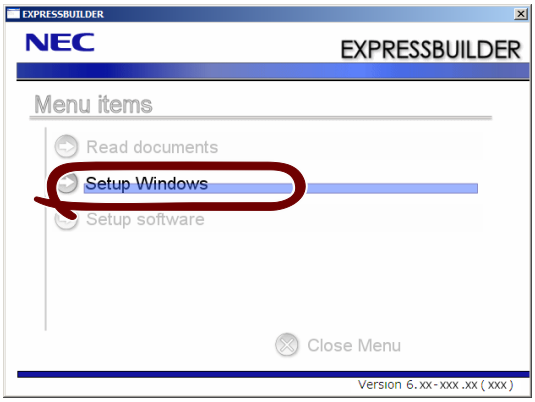
Important **Do not remove EXPRESSBUILDER DVD from the drive while creating a parameter file.**

Tips

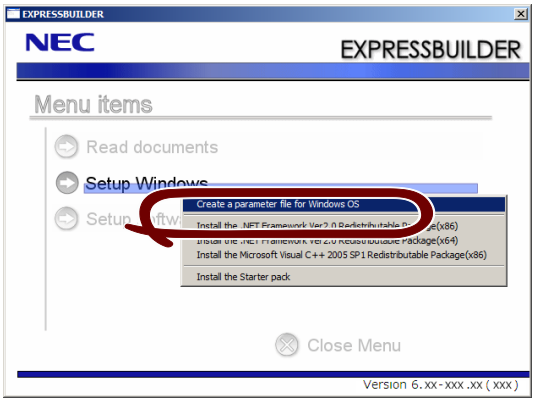
A parameter file can be created when using the following operating systems:

- Windows Server 2008 R2 (Full installation)
- Windows Server 2008 (Full installation)
- Windows Server 2003 x64 Edition, Windows Server 2003
- Windows 7
- Windows Vista
- Windows XP x64 Edition, Windows XP

1. Start the OS.
2. Insert the supplied EXPRESSBUILDER DVD into the optical disk drive.
   Autorun Menu automatically appears.
3. Right-click on the window or click **Set up Windows** to open the short-cut menu.

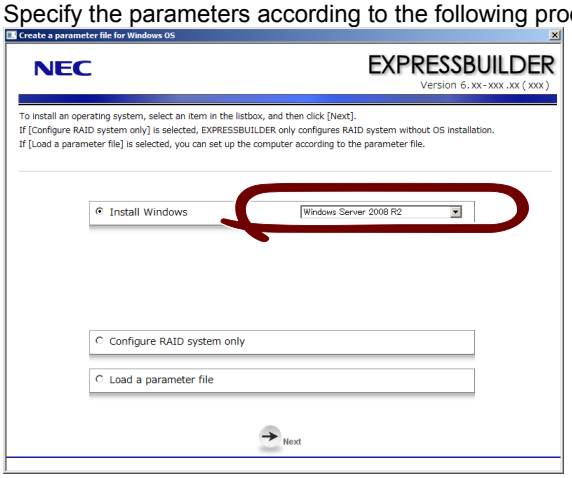


4. Select **Create a parameter file for Windows OS**.



The following window appears.

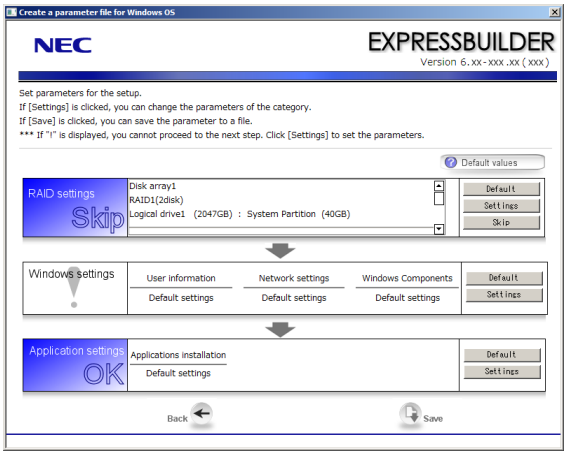
5. Specify the parameters according to the following procedure.


Create a parameter file for Windows OS
NEC
EXPRESSBUILDER
Version 6.xx-xxx.xx (xxx)
To install an operating system, select an item in the listbox, and then click [Next].
If [Configure RAID system only] is selected, EXPRESSBUILDER only configures RAID system without OS installation.
If [Load a parameter file] is selected, you can set up the computer according to the parameter file.
Install Windows
Windows Server 2008 R2
Configure RAID system only
Load a parameter file
Next

Tips

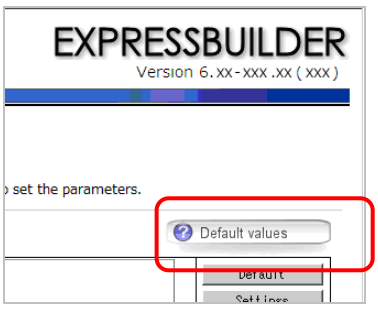
- To modify an existing parameter file, click **Load a Parameter file** on the setup selection menu.
- To cancel parameter file creation in the middle, click [ ] on the upper right of the dialog box.

6. Set parameters required for setup.
Click [Settings] of the relevant category to change parameters.



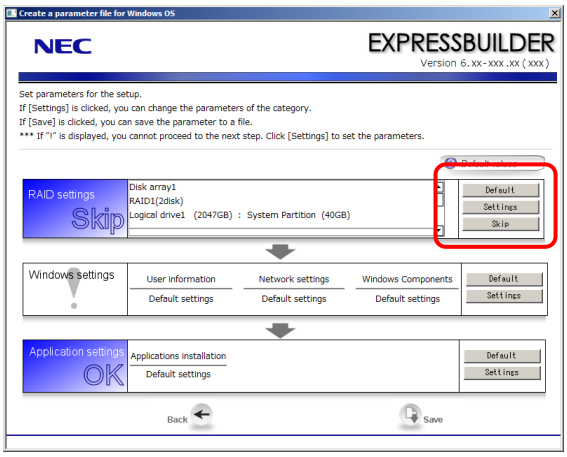
Click [Default] to restore the default values.

You can see the default values by clicking [Default values].



6-1 RAID settings

Use this menu to configure RAID System with the RAID Controller detected automatically. Specify the RAID settings using the RAID settings wizard on Parameter Setup Menu.



Important **The number of Physical Devices displayed on the *RAID settings wizard* is the upper limit supported by the RAID Controller.**
Make sure that the number of actually connected Physical Devices does not exceed this value.

When creating new logical drives

(1) Click [Settings] in RAID settings.

(2) Use the wizard to set up the logical drives.

Important **If you proceed with wizard, the existing RAID system is destructed and the contents of hard disk drive will be erased.**

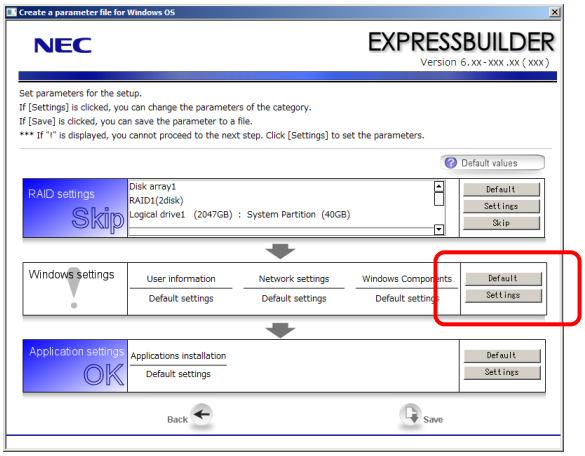
When skipping the creation of new logical drives

Click [Skip] in RAID settings.

Return to Parameter Setup Menu.
Proceed to Windows setup.

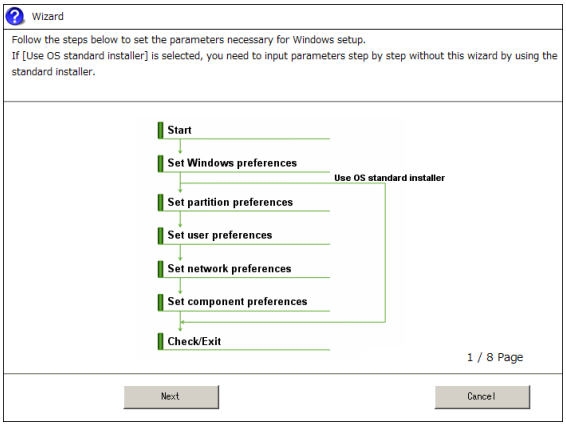
6-2 Windows settings

Set up Windows by using the Windows settings wizard on Parameter Setup Menu.



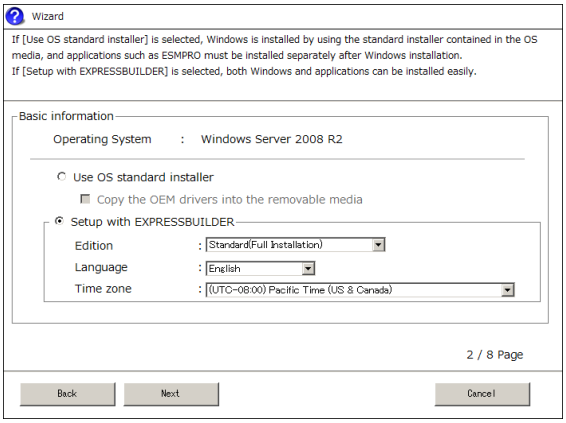
(1) Click [Settings] in **Windows settings**.

(2) Click [Next] in the Windows settings wizard.


Wizard
Follow the steps below to set the parameters necessary for Windows setup.
If [Use OS standard installer] is selected, you need to input parameters step by step without this wizard by using the standard installer.
Start
Set Windows preferences
Use OS standard installer
Set partition preferences
Set user preferences
Set network preferences
Set component preferences
Check/Exit
1 / 8 Page
Next
Cancel

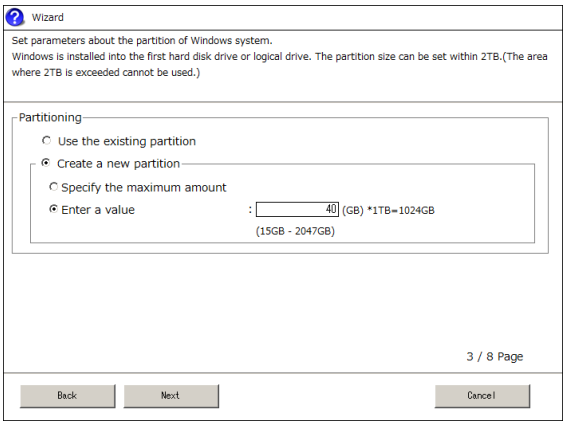
(3) Specify the Windows basic settings.

Change settings for "Edition" and "Time Zone" as needed, and click [Next].


Wizard
If [Use OS standard installer] is selected, Windows is installed by using the standard installer contained in the OS media, and applications such as ESMPRO must be installed separately after Windows installation.
If [Setup with EXPRESSBUILDER] is selected, both Windows and applications can be installed easily.
Basic information
Operating System : Windows Server 2008 R2
Use OS standard installer
Copy the OEM drivers into the removable media
Setup with EXPRESSBUILDER
Edition : Standard(Full Installation)
Language : English
Time zone : (UTC-08:00) Pacific Time (US & Canada)
2 / 8 Page
Back
Next
Cancel

(4) Set up the partitions.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].

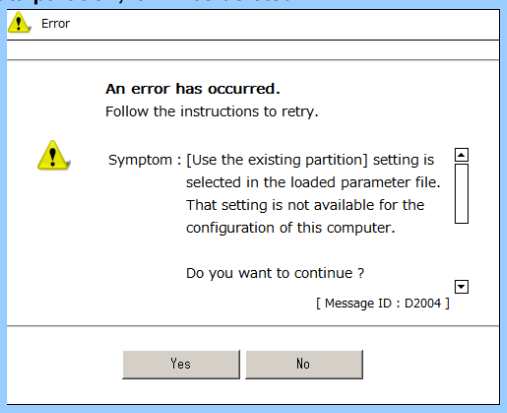

Wizard
Set parameters about the partition of Windows system.
Windows is installed into the first hard disk drive or logical drive. The partition size can be set within 2TB.(The area where 2TB is exceeded cannot be used.)
Partitioning
Use the existing partition
Create a new partition
Specify the maximum amount
Enter a value
40
(GB) *1TB=1024GB
(15GB - 2047GB)
3 / 8 Page
Back
Next
Cancel

Important

- **Some data in the hard disk drive might be deleted depending on the system settings. Pay attention to input parameters. Backing up user data, as needed, is recommended.**
- **Partition size**
  - **Specify a partition size larger than the minimum required for installing the operating system. (Refer to *Chapter 1 (Before Starting Setup)*.)**
  - **The maximum partition size is 2,097,152 MB.**
- **If you select *Create a new partition* under *Partitioning*, the entire contents of the hard disk drive will be deleted.**
- **If you select *Use the existing partition* under *Partitioning*, data in the boot partition (if it exists) and system partition is formatted and deleted. Data in other partitions will be kept.**
  The figure below shows in which partitions data will be deleted.

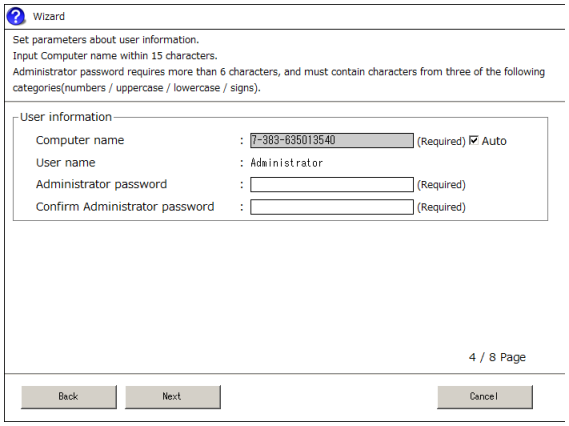
Boot partition	system partition	User data partition
Deleted	Deleted	Retained

- **You cannot reinstall to an existing partition that has been upgraded to a Dynamic Disk (refer to *Chapter 1 (Before Starting Setup)*). Do not select *Use the existing partition* under *Partitioning*.**
- **The following message might be displayed when a created parameter file is loaded. In this event, installation using an existing partition cannot be executed. Select *Create a new partition* under *Partitioning* for installation. If there is a data partition, it will be deleted.**


Error
An error has occurred.
Follow the instructions to retry.
Symptom : [Use the existing partition] setting is selected in the loaded parameter file. That setting is not available for the configuration of this computer.
Do you want to continue ?
[Message ID : D2004]
Yes
No

(5) Enter user information.

The user information window appears. Enter the user information, and then click [Next].


Wizard
Set parameters about user information.
Input Computer name within 15 characters.
Administrator password requires more than 6 characters, and must contain characters from three of the following categories(numbers / uppercase / lowercase / signs).
User information
Computer name : 7-383-635013540 (Required) Auto
User name : Administrator
Administrator password : (Required)
Confirm Administrator password : (Required)
4 / 8 Page
Back
Next
Cancel

Note

For Windows Server 2008 R2/Windows 2008, you must enter a computer name and administrator password that satisfies the following conditions:

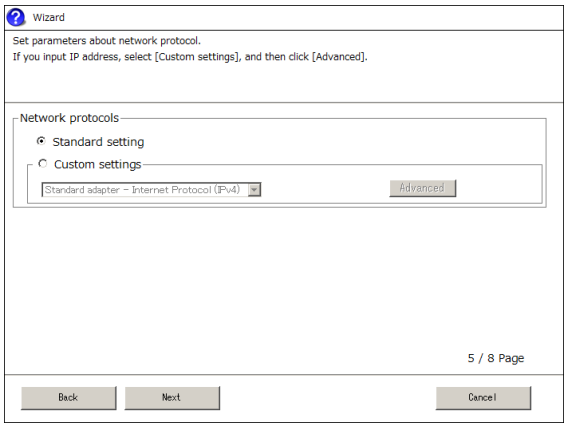
- Contains 6 or more characters
- Contains characters from at least three of the following categories: numbers, uppercase letters, lowercase letters, and symbols.

Tips

- The Computer name has been assigned by automatic assignment function. If you need to assign another computer name, remove the checkmark from "Auto", and enter the desired computer name.
- Do not enter the same name for Computer name and User name fields.
- Do not enter "Administrator" nor "Guest" in User name field.
- If a parameter file is used for setup or if you return to a previous screen, •••••• is displayed in the Administrator password and Confirm Administrator password text boxes even if no value has been entered.

(6) Set up the network.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



Tips

The order of entry in **Custom settings** may differ from the numbering of LAN ports.

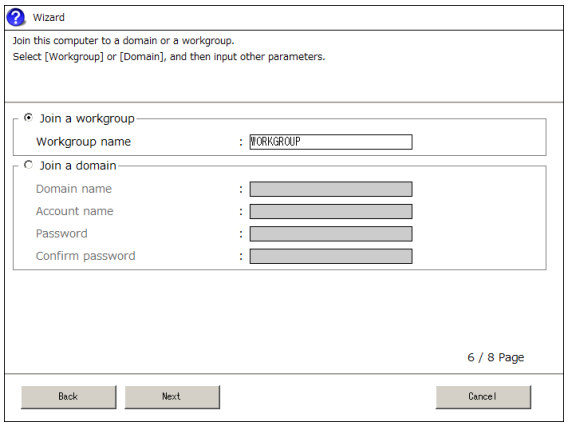
Note

Even when an optional network board is connected, the custom setting list only shows standard network boards.

When an optional network board has been mounted, the optional network board may need to be configured for the custom settings. After finishing Setup with EXPRESSBUILDER, specify the network settings again.

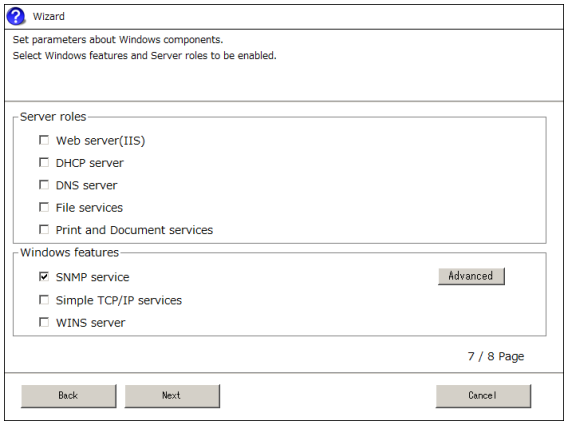
(7) Enter the domain or workgroup name to be used.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



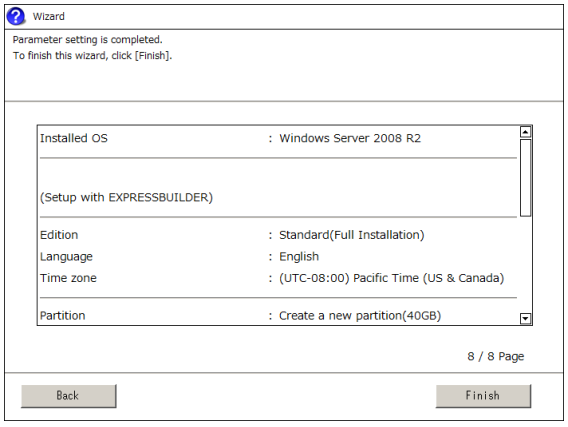
(8) Select the Windows components for installation.

Confirm settings on the dialog shown below, change them as needed, and then click [Next].



(9) Confirm settings.

Confirm settings on the dialog shown below, and click [Finish].

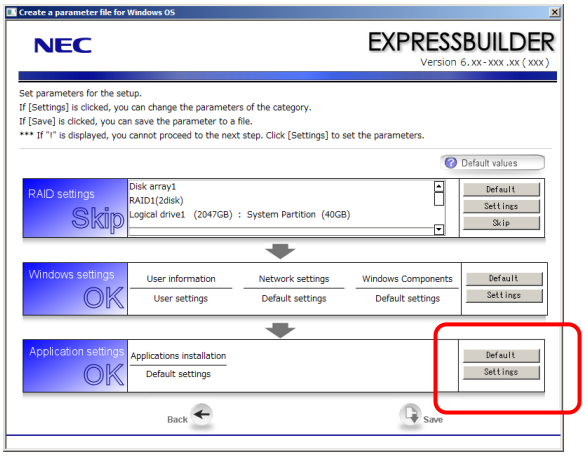

Wizard
Parameter setting is completed.
To finish this wizard, click [Finish].
Installed OS : Windows Server 2008 R2
(Setup with EXPRESSBUILDER)
Edition : Standard(Full Installation)
Language : English
Time zone : (UTC-08:00) Pacific Time (US & Canada)
Partition : Create a new partition(40GB)
8 / 8 Page
Back
Finish

Return to Parameter Setup Menu.

Proceed to application setup.

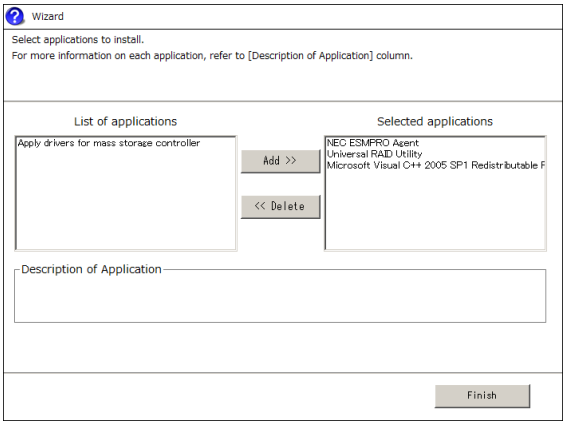
6-3 Application settings

Set up applications using the Application settings wizard in Parameter Setup Menu.

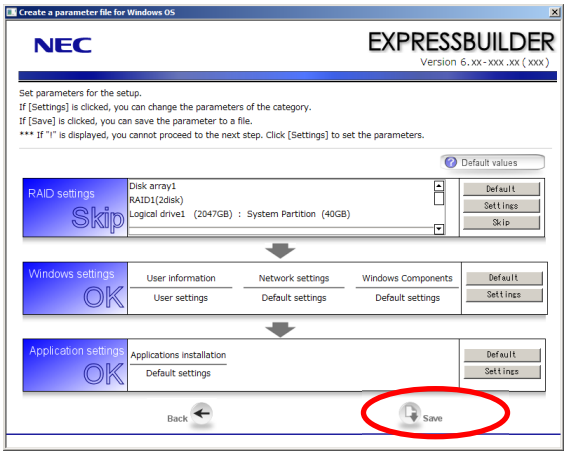


(1) Click [Settings] in **Application settings**.

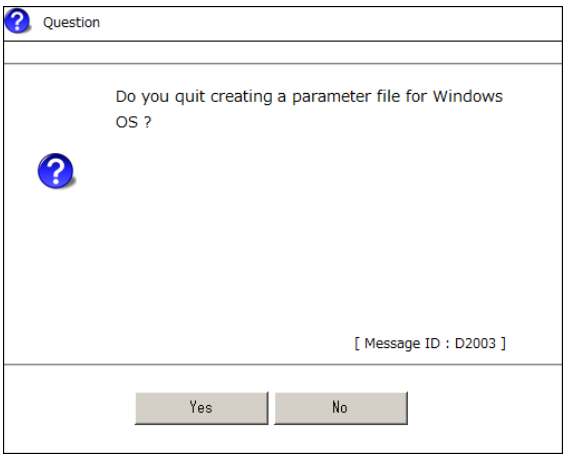
(2) Confirm settings on the dialog shown below, change settings as needed, and click [Finish].



7. Save parameters on Parameter Setup menu.
Click [Save], and save the parameter file onto the removable media according to on-screen instructions.



When the following message appears, click [Yes] to complete parameter file creation.



Parameter file creation is now complete.

NEC Express5800 Series
Express5800/R120d-1M, R120d-2M

2

Installing the Bundled Software

This chapter provides brief explanation of bundled software and how to install them.

1. **Bundled software for the server**
   Describes the bundled software to be installed in the server system.

2. **Bundled software applied to PC for Management**
   Describes the bundled software to be installed in "PC for Management" that is used to monitor and manage the server system.

1. Bundled Software for the Server

This section introduces the software bundled in the server package. For details, refer to the software documents.

1.1 NEC ESMPRO Agent (for Windows)

NEC ESMPRO Agent (for Windows) is an application used to monitor the server.

It is automatically installed when a Windows OS is installed by using EXPRESSBUILDER.

When installing NEC ESMPRO Agent (for Windows) individually, refer to *NEC ESMPRO Agent Installation Guide (Windows)* in EXPRESSBUILDER.

1.2 NEC ESMPRO Agent Extension

NEC ESMPRO Agent Extension allows you to manage this server remotely by the server's BMC connecting with NEC ESMPRO Manager.

For details about how to install NEC ESMPRO Agent Extension, refer to "*NEC ESMPRO Agent Extension Installation Guide*" in EXPRESSBUILDER.

1.3 BMC Configuration

BMC Configuration enables you to specify configurations to this server's BMC.

For details about how to install BMC Configuration, refer to "*BMC Configuration User's Guide*" in EXPRESSBUILDER.

1.4 NEC ExpressUpdate Agent

NEC ExpressUpdate Agent enables you to manage and update the versions of the firmware and software installed in this server.

By using NEC ExpressUpdate, you can install the downloaded packages easily.

For details about how to install NEC ExpressUpdate Agent, refer to "*NEC ExpressUpdate Agent Installation Guide*" in EXPRESSBUILDER.

Tips Updates are available for some firmware and software that do not support NEC ExpressUpdate. Refer to the following website to install these packages:
http://www.nec.com/global/prod/express/index.html

1.5 Universal RAID Utility

Universal RAID Utility is an application used to manage and monitor the following RAID Controllers:

- N8103-149 RAID Controller (512 MB, RAID 0/1)
- N8103-150 RAID Controller (512 MB, RAID 0/1/5/6)
- N8103-151 RAID Controller (1GB, RAID 0/1/5/6)
- N8103-160 RAID Controller (1GB, RAID 0/1/5/6)

For details about how to install and operate Universal RAID Utility and its functions, refer to "*Universal RAID Utility User's Guide*" in EXPRESSBUILDER.

If the system requirements (such as the operating system) for Universal RAID Utility described in *Universal RAID Utility User's Guide* differ from *User's Guide* of the server, follow *User's Guide* of the server.

1.5.1 Setup of Universal RAID Utility

This section describes setup of Universal RAID Utility.

(1) Setup for BTO (Built To Order) models

If you purchased a BTO model configured with a RAID System, Universal RAID Utility is already installed. You do not need to install Universal RAID Utility for such models.

(2) Setup with EXPRESSBUILDER

You can easily install Universal RAID Utility by using EXPRESSBUILDER. When you execute Setup with EXPRESSBUILDER, Universal RAID Utility is installed along with Windows. Select **Universal RAID Utility** in the application selection dialog box during setup.

(3) Setup using Universal RAID Utility setup program

The Universal RAID Utility setup program can be launched from the autorun menu of EXPRESSBUILDER.

From the autorun menu, select **Set up software** and then **Universal RAID Utility**.

For Windows, the following runtime components are required:

– Microsoft .NET Framework 2.0 to 3.5

– Microsoft Visual C++ 2005 SP1 library runtime component

These applications can also be installed from the autorun menu.

To install Microsoft .NET Framework 2.0, select **Set up Windows** and then **Install .NET Framework Ver2.0 Redistribution Package (x86)** (**Install .NET Framework Ver2.0 Redistribution Package (x64)** in the case of x64) from the autorun menu.

To install the Microsoft Visual C++ 2005 SP1 library runtime component, select **Set up Windows** and then **Install Microsoft Visual C++ 2005 SP1 Redistribution Package (x86)** (use x86 regardless of the CPU architecture) from the autorun menu.

- **Microsoft .NET Framwork**
  To use the RAID Viewer and Log Viewer, Microsoft .NET Framework Version 2.0 to 3.5 or later is required.
  Windows Server 2008 and Windows Server 2008 R2 include .NET Framework 2.0 to 3.5.
  Therefore, .NET Framework does not need to be installed when using these operating systems.

- **Microsoft Visual C++ 2005 SP1 library runtime component**
  To use the RAID Viewer, Microsoft Visual C++ 2005 SP1 library runtime component is required.
  Windows Server 2008 R2 includes Microsoft Visual C++ 2005 SP1 library. Therefore, Microsoft Visual C++ SP1 library runtime component does not need to be installed when using these operating systems.

1.5.2 Management by NEC ESMPRO Manager

NEC ESMPRO Manager Ver. 5.5 or later is used to remotely reference and monitor the RAID System that is managed by Universal RAID Utility.

For details about NEC ESMPRO Manager, refer to "*NEC ESMPRO Manager Installation Guide*".

1.6 NEC Product Info Collection Utility

NEC Product Info Collection Utility can collect various information related to the server all at once. This utility allows you to collect server information(Product Info) for maintenance.

1.6.1 Installation

You can install this utility by using the following steps.

1. Log on to Windows, and then insert EXPRESSBUILDER into the optical disk drive. The autorun menu appears automatically.
2. From the autorun menu, select **Set up Software** and then **Product Info Collection Utility**.
   Installation of this utility starts. After this, follow the instructions in the dialog boxes until installation is complete. (By default, this utility is installed in the *C:\ezclct* folder.)

Tips

- Log on to the system with an account that has administrator privilege.
- The installation drive requires a free space of at least 2.5 GB.

1.6.2 Uninstallation

- **When the server is not in a Server Core configuration:**

  From **Control Panel**, select **Add/Remove Programs** and then **Product Info Collection Utility (Vx.x.x)**. After this, follow the instructions in the dialog boxes until uninstallation is complete.

- **When the server is in the Server Core configuration:**

  Execute the following command at the command prompt:

```
Wmic product where name="Product Info Collection Utility" call uninstall
```

2. Bundled Software to be applied to PC for Management

This section describes the bundled software required to configure PC for Management used to manage the server system.

2.1 NEC ESMPRO Manager

NEC ESMPRO Manager remotely controls and monitors the server hardware and RAID System.

To use these features, install the bundled software such as NEC ESMPRO Agent on the server.

For details about the system requirements of NEC ESMPRO Manager and how to install it, refer to "*NEC ESMPRO Manager Installation Guide*" in EXPRESSBUILDER.